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—*John Ruskin.*

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SEPTEMBER, 1910

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American Branch of the International Temperance Bureau

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# Scientific Temperance Journal

Vol. XX

BOSTON, SEPTEMBER, 1910

No. 1

## Labor

By Henry Van Dyke

They who tread the path of labor where My feet have trod;  
They who work without complaining do the holy will of God.

Where the many toil together, there am I among My own;  
Where the tired workman sleepeth, there am I with him alone.

I, the peace that passeth knowledge, dwell amid the daily strife;  
I, the bread of Heaven, am broken in the sacrament of life.

Every task, however simple, sets the soul that does it free;  
Every deed of love and mercy, done to many, is done to Me.

—From the *Toiling of Felix*.

## The Elderton Inquiry into Parental Alcoholism

BY E. L. TRANSEAU

A RECENT study carried on in the Galton Laboratory for Eugenics,\* is reported to have found that no substantial relation exists between parental alcoholism and defective childhood.

The foundation for such a conclusion could only be obtained by a careful comparison of the children of alcoholic and non-alcoholic parentage. But this was not done in the studies reported in the memoir by Miss Elderton.

### ALCOHOLIC AND NON-ALCOHOLIC PARENTAGE COMPARED

A very exhaustive and careful comparison of a large number of children as to physical and mental conditions was made in the Elderton inquiry but it was between the slightly and the considerably alcoholized parents. The memoir itself expressly states that:

Teetotalers were too few to be considered in a class by themselves; they were, therefore, classed with the "sober".

The "sober" were those who were not abstainers, but who did not drink enough to do themselves or their homes any apparent harm. These were assumed to be "non-alcoholic" and were used as such for comparison with the harder drinkers who were assumed to be the only "alcoholic" class.

Neither the number of "teetotalers", "sober" nor any other class is stated in the Elderton study, which was confined to two sets of data: (1) statistics of a school for feeble-minded in Manchester; (2) a school in one of the poorest sections of Edinburgh. From

the original of the Edinburgh report, however, which happened to be accessible, we find that 781 families were included in that investigation. Only 18 of these were "teetotal", and some of those only recently so. The sober families numbered 275.

### AN UNWARRANTABLE ASSUMPTION

That it was an error to assume that only the hard drinking parents were "alcoholic" and that the moderate drinkers were "non-alcoholic" is clearly proved by the wide differences found by other investigators between the health of the progeny of abstainers and of moderate drinkers.

The following table shows the percentage in child mortality and abortions obtained by Professor Laitinen in an investigation that covered over 5,000 families in more than a fourth of which parents were abstainers or had been since marriage:

	PERCENTAGE OF DEATHS	ABORTION
Abstainers,	13.45 per cent.	1.07 per cent.
Moderate Drinkers,	23.17 per cent.	5.26 per cent.
Immoderate Drinkers,	32.02 per cent.	7.11 per cent.

The Elderton memoir finds a considerably higher rate of child mortality among the parents classed as "non-alcoholic" than Professor Laitinen found in his class of moderate drinkers.

The average child mortality of all the groups classed as "non-alcoholic" in the Elderton memoir is more than double that of Professor Laitinen's abstainers.

The child mortality of the groups classed as "alcoholic" in the Elderton memoir closely approximates that found by Professor Laitinen among immoderate drinkers.

\*"A First Study of the Influence of Parental Alcoholism on the Physique and Ability of Offspring," by Ethel M. Elderton, Galton Research Scholar in National Eugenics in the University of London.

The truth of these assertions is apparent when the table above is compared with the one below in which is given the percentage of child mortality in the several groups of parents classed as "alcoholic" and non-alcoholic" in the Elderton study:

PERCENTAGE OF CHILD MORTALITY.

So-Called "Non Alcoholics."	So-Called "Alcoholics."
Manchester Mothers, 26.5	Manchester Mothers, 33.8
Manchester Fathers, 25.8	Manchester Fathers, 33.5
Edinburg Mothers, 28.4	Edinburg Mothers, 34.7
Edinburg Fathers, 28.9	Edinburg Fathers, 32.4

Average, 27.4      Average, 33.6

The Edinburgh "drinkers" were subdivided into two groups, those who drank regularly and those who drank in "bouts" or sprees. The child mortality was slightly heavier in the latter class: namely, 32.7 for the fathers and 36.1 for the mothers against 32.1 and 33.4 respectively among the regular drinkers. The table gives the average of the two groups of "drinkers", and the total average. We see how nearly it corresponds to the child mortality of Professor Laitinen's moderate and immoderate drinkers. We are unquestionably justified in substituting the terms moderate and immoderate drinkers for the Elderton "non-alcoholic" and "alcoholic" misnomers.

JUSTIFIABLE CONCLUSIONS

The comparisons made in the Elderton inquiry between the children of moderate drinkers and those of the immoderate were very elaborate and covered height, weight, health, disease, mortality, intelligence, and condition of vision. The following conclusions arrived at were in accordance with the data, which, as we have seen, were very restricted and not generally representative. The words in brackets indicate the terms that should properly have been applied to the classes, inasmuch as those called "sober" were admitted to be moderate drinkers:

1. "There is a higher death-rate among the offspring of alcoholic [immoderate] than among the offspring of sober [moderate] parents."

2. "There is slightly greater height and weight in the children of the sober" [moderate].

3. "The general health of the children of alcoholic [immoderate] parents appears on the whole slightly better than that of the sober [moderate]. . . . The higher death-rate of the children of the alcoholic [immoderate] parents probably leaves the fitter to survive."

UNJUSTIFIABLE CONCLUSIONS

The following conclusions are unwarrantable because the term "parental alcoholism" is

assumed to apply only to the immoderate drinkers, whereas it applies in nearly as great a degree, as the findings themselves show, to the moderate drinkers. The sentences enclosed in brackets show how the conclusions should be stated to be in accord with the drinking habits of the two classes. A question may, however, very properly be raised as to whether the conclusions even thus amended are strictly warrantable by the narrow data used.

1. "Parental alcoholism is not the source of mental defect in offspring." [No more immoderate than moderate drinkers were found among the parents of the feeble-minded children of Manchester.]

2. "The relationship, if any, between parental alcoholism and filial intelligence is so slight that even its sign can not be determined from the present material." [The average intelligence of the children of immoderate drinkers was found to be as high as that of the children of moderate drinkers.]

3. "There is no substantial relationship between goodness of sight and parental alcoholism." [The children of immoderate drinkers were found to have as good eyesight as the children of moderate drinkers.]

"To sum up, then, no marked relation has been found between the intelligence, physique or disease of the offspring and parental alcoholism in any of the categories investigated." [Practically no difference was found between the intelligence, physique, or disease of the children of the moderate and those of the immoderate users of alcohol, in the classes investigated.]

But for the last clause, the sum total of all the conclusions would be that so far as hereditary effects go there is not the great difference between the *use* and the *abuse* of alcohol that is often affirmed.

In view, however, of the highly specialized data used and the entirely different results obtained by investigators whose inquiries have extended over wider fields and have been carefully classified, even this conclusion must be challenged.

Take as one example, Professor Bunge's inquiry as to tuberculosis and nervous diseases in the four classes of drinkers into which he separated the 2,051 families whose histories he obtained:

PERCENTAGE OF DISEASES IN CHILDREN.

	Fathers	Tuberculosis	Nervous
Occasional Drinkers,		6.4	4.3
Regular Moderate Drinkers,		9.4	7.6
Regular Immoderate Drinkers,		17.1	11.1
Heavy Drinkers (Drunkards)		24.2	22.2

The moral of the Elderton publication spells more work for those who would extend the dissemination of truth and check that of error.

## How Alcohol Cripples the Circulatory System\*

By JOHN HAY, M. D., M. R. C. P., ENGLAND

**I**T gives me considerable pleasure to deal with the action of alcohol on the heart, on the blood vessels and on their contained blood, because of the widespread belief in the efficacy of alcohol as a heart stimulant. In fact, when the public speak of "stimulants," with a capital "S," they imply alcohol in some form or other, and, indeed, the same may be said of many medical men. It is their belief that whatever properties alcohol may possess its predominant quality is that of stimulation.

Now, this is a fallacy, widespread and deeply rooted, but none the less a fallacy, and my duty, one of my duties, is to put the facts before you which prove the error of such an assumption.

mouth, throat, and stomach, and can be induced by many causes, such as sipping strong peppermint-water, ether, capsicum, very hot water, ginger and so forth.

This result is brought about by nervous influences passing up from the mouth, throat, and stomach to the central nervous system, and is extremely transitory. In a few minutes the alcohol is absorbed from the stomach and reaches the blood stream. In fifteen minutes the larger portion of the ingested alcohol has passed into the blood. It then exerts its own peculiar action on the heart muscle, the blood, the central nervous system, and all the living cells with which it comes into contact, and this is the really important action for us to consider.



A part of the National Catholic Total Abstinence Convention, Boston, Aug., 1910.

In a person with a healthy circulation there should be no consciousness of the heart's action. The heart acts quietly and strongly, effort and stress are met without discomfort; the blood pressure is neither high nor low, and the arterial walls are soft and elastic. Such being the normal condition, we are to consider how it is influenced by the drinking of alcohol.

Alcohol acts in two different ways which must be carefully distinguished.

1. Reflexly—before absorption into the blood stream.

2. Specifically—after absorption.

Let me make this clear. When a mouthful of brandy is swallowed it at once produces a sense of warmth and tingling in the mouth and throat, and possibly in the stomach; there is a feeling of comfort, and flatulence may be relieved. Simultaneously the heart beats faster and possibly a little stronger. This effect is reflex and is caused by the irritant action of the alcohol on the mucous membranes of the

## ALCOHOL CRIPPLES THE CARDIAC PUMP

We are here to discuss whether this constant recurrent flooding of the blood stream, even with small quantities of alcohol, is or is not detrimental to the heart, the blood vessels and the blood. Does it make the action of the cardiac pump more efficient? Does it help to keep the blood pressure at an efficient level? Does it tend to maintain the youthful elasticity of the arteries, and so increase the number of our years? And lastly, does it increase the functional activity of the blood, and make it easier for this vital fluid to protect us from disease? These are the questions. My answer is an unhesitating and uncompromising no. It does none of these things. A strange conclusion when it is remembered that we are discussing the action of a so-called stimulant. Instead of the heart muscle being stimulated it is depressed. Much experimental work and prolonged investigations have proved this beyond question. Under the influence of small

quantities of alcohol, the heart contracts less efficiently and less powerfully, the cardiac pump is crippled and its force diminished. If the amount of alcohol is excessive, and the intoxication profound, the heart muscle may be so seriously affected as to cause acute dilatation of the heart and sometimes death.

#### EFFECT ON THE BLOOD PRESSURE

What do we find to be the action of alcohol on the blood pressure?

There is sometimes a transitory rise for a few minutes after a dose of alcohol has been swallowed. This rise is slight and rapidly passes away to be followed, in most cases, by a fall.

The characteristic action of alcohol in therapeutic doses, that is, in amounts such as are ordered to patients, is distinctly to lower the blood pressure. Rarely, this action is of some service, as a rule it is detrimental. In febrile conditions such as typhoid fever, pneumonia, and so forth, the blood pressure is quite low enough, and it is irrational to still further diminish it by the administration of alcohol.

Alcohol lowers the blood pressure by acting on the central nervous system, causing messages to be sent down to the smallest arteries; these then dilate, and the blood flows through them more easily. The skin is flushed, and feels warm, and gives a sense of comfort and well-being.

Drs. Munro and Findlay, of Glasgow, in a most valuable and careful paper, summarize the position as follows: "In fevers and other morbid states where the heart is already disabled by pathological processes, alcohol must still further cripple the cardiac muscle fibres. Alcohol does not stimulate the heart, nor does it constrict the vessels; in other words, it is neither a cardiac nor a vascular tonic, and it has been proved beyond question that it is unable to raise either a normal or a low blood pressure."

#### ACTION ON THE BLOOD VESSELS

The arteries are elastic tubes, soft and strong, having muscular fibres in their walls, and their inner surface covered by a delicate lining membrane. With the advance of years they alter—they lose their softness and elasticity and become tough, fibrous changes make their appearance, globules of fat are deposited in their walls, and ultimately lime salts may produce an almost stony hardness of the arterial tube.

There are, unfortunately, many factors in addition to that of years which bring about these degenerate changes in the vessels. Alcohol is admittedly potent in initiating, in precipitating, and in hastening this senile con-

dition. The onset and progress of these changes are insidious, the results are disastrous.

The various organs of the body, including the heart, are less efficiently supplied with blood, and as a necessary consequence their working power is impaired. The brain becomes less active, the mental grip is weakened, the liver becomes sluggish, the action of the kidneys defective. The arteries are brittle and may give way, with grave consequences. In a word, old age comes on apace, with premature lack of energy and vigor, lassitude and mental hebetude.

Before proceeding to the important action of alcohol on the blood, I must just refer in passing to the changes which slowly take place in varying degree in the heart muscle of those who habitually take alcohol. Degenerate changes of a fatty nature occur and fat is also deposited between and about the cardiac fibres, impeding the action of the heart. The small arteries carrying the blood to the musculature of the heart are thickened and may be partially occluded [closed]. The heart becomes larger and less powerful, and its owner notices that he tires more easily and that exertion causes him to feel unduly short of breath. The heart is ill-prepared for any physical stress or the ordeal of an acute illness, and in many cases its enfeebled condition is the factor which determines the fatal ending.

#### THE PROTECTIVE MECHANISM OF THE BLOOD

The blood is a living tissue, composed of a fluid, the plasma, in which are suspended millions upon millions of small bodies—the corpuscles. The corpuscles are of two kinds, the red corpuscles and the white. The red have one important function, that of carrying oxygen to the tissues. Oxygen is absolutely necessary for the life of every living cell in the body, it is necessary for the production of heat and energy, and it is also necessary for the burning up of the waste products.

The white corpuscles, often called the leucocytes, are much less numerous, than the red; their duties are of a different order. They are very largely responsible for the maintenance of health by the prevention of infection. They have the power of attacking any bacteria with which they come into contact, enveloping them, and finally digesting them; this well-known process is termed phagocytosis, and is an important factor in the production of immunity.

Not only do these leucocytes kill and digest the germs of disease and thus preserve us from much harm, but they also produce certain bodies called antibodies or antitoxins, which in themselves are of incalculable value

as part of the great protective mechanism with which we are endowed.

The plasma itself possesses certain properties of great utility in the building up of this protective mechanism already referred to. One such property is that it contains bodies, called opsonins—these make the bacteria and germs of disease more palatable to the leucocytes; unless these substances are present in the blood phagocytosis is impaired. Phagocytic activity is not merely a matter of the activity of the white corpuscles, but is favored and stimulated by these opsonins.

Different bloods vary in the amount of their opsonins and it is of great importance that there should be a large quantity of these bodies present to aid the leucocytes in their battle with the germs. The amount of the opsonins can be increased by vaccination and also by oral medication, and this fact is the basis of much recent treatment.

There is another property possessed by the plasma, an extremely valuable one. There is inherent in it the power of destroying and dissolving bacteria. This exists in addition to that possessed by the white corpuscles just described. This peculiarity of the plasma can be greatly increased and strengthened by properly applied means and well-recognized methods.

These are some of the means by which the blood protects us from disease and death. The blood and its various constituent parts are constantly building up a barrier between us and infection. Without this beneficent protective mechanism we could not exist; its value is incalculable and the importance of keeping it at the highest point of perfection is obvious.

#### HOW ALCOHOL WEAKENS THE DEFENCES

Now let us consider the effect of alcohol on these life-preserving properties of the blood. Alcohol influences each of the characteristics of the blood just enumerated, and its influence in each specific case is bad. Under the influence of alcohol the red blood corpuscles become less efficient oxygen carriers, oxidation is impaired, the changes essential to the perfect nutrition of the tissues are interfered with, and the necessary oxidation or burning up of the waste products is prevented. The result is fatty degeneration, fatty infiltration, and the retention of waste products. The vitality of the tissues is impaired, and the activity of the various organs diminished.

Under the influence of alcohol the white corpuscles are less active in their phagocytosis, they are more sluggish, and offer a less strenuous fight against any invading germ; then also, and of very great importance, those very

qualities of the plasma by which the leucocytes are assisted in the battle against disease are rendered less effective. Immunity is lessened, there is greater liability to infection, and in the event of infection having taken place the probability of a fatal termination is considerably increased.

As Professor Laitinen sums it up in the last Norman Kerr lecture: "It seems clear, therefore that alcohol, even in comparatively small doses, exercises a prejudicial effect on the protective mechanism of the human body."

#### INCREASED DEATH RATE IN PNEUMONIA

A physician treating a man suffering from acute pneumonia fears and fights against two things: One, the actual poisoning of the patient by the toxins of the pneumonia germs; the other, failure of the heart. If the patient dies one alone, or both, of the above factors are responsible. The poisoning, as indicated by the fever, the delirium, the frequent pulse, and the rapid breathing, results from the growth and activity of these germs, and the recovery and well-being of the patient depends on the counter-activity of the leucocytes and the plasma of the blood by which are produced the antibodies, which, in their turn, nullify and counteract the virulent poison. When this is accomplished the crisis occurs and the danger is practically over. The development of the crisis is, therefore, dependent on the protective mechanism, about which we have been speaking, and which is rendered less efficient by alcohol.

The death rate among alcoholics attacked by pneumonia is extremely high, ranging between 60 per cent. and 70 per cent., and it is probable that one cause of this terrible mortality is the lack of resisting power which characterizes such patients.

The second possibility dreaded by the doctor in a case of pneumonia is heart failure. Picture to yourselves what is happening—one lung solid, entailing greatly increased work on the heart, the fever damaging the muscular fibres, and the defective respiration augmenting the difficulties against which the heart is struggling.

In such a fight every handicap is serious, for sometimes even the healthiest heart is unequal to the task; much more likely to give way is a heart whose muscle fibres have been deteriorating slowly and insidiously for years. Such a heart, when compelled to cope with the stress of an acute pneumonia, dilates and fails, and death occurs, because the heart was insufficient to the strain.

#### SUSCEPTIBILITY TO TUBERCULOSIS

The same general principles apply also to patients suffering from consumption. This dis-

ease tends to be chronic, and the clinical picture is one in which there are periods of moderate health separated by relapses—the higher the resisting power of the patient the fewer the relapses, while the likelihood of permanent cure is enhanced. A drinker of alcohol is more susceptible to the infection of tuberculosis; and when infected, the disease tends to make more rapid progress and is less amenable to treatment. This intimate relationship between pulmonary tuberculosis and excessive drinking was brought to my notice some years ago in a very striking manner. I was then a resident medical officer in a large union infirmary. One of the wards devoted to pulmonary tuberculosis contained thirty-six beds, and in this ward most of the patients suffered from fairly advanced consumption; of the thirty-six patients, thirty-four confessed to lapses to

immoderate drinking. The other two were children. Comment is unnecessary.

From a consideration of the facts I have laid before you, certain conclusions seem to be inevitable:

1. That alcohol is not a stimulant but a depressant.
2. That alcohol slowly and insidiously renders the heart less able to meet the calls on its reserve power which may be made upon it.
3. That by depreciating the protective mechanism, alcohol renders those who drink it more liable to infection.
4. That being infected, their chance of recovery is diminished and the duration of their illness increased.
5. That alcohol tends to induce premature senility.—*British Alliance News*.



## The Value of Literature Work

BY HON. OLIVER W. STEWART

OUR speakers are needed, our public meetings must be held, we must not decrease our work along those lines, but there is great need of continued effort along the lines of distribution of literature.

Consider first of all, the effect upon the people who receive the literature. If the literature takes the form of a representative paper, the coming of the paper into the hands of the indifferent is certain to have at least a slight impress upon the mind. He through whose hands the paper goes is almost sure to keep in mind some fact in connection with it—if nothing more, at least the fact that he did see such a paper and also that it was devoted to a great reform.

If the literature takes the form of leaflets or pamphlets, the effect certainly is good. One might receive one leaflet, give it a glance and allow it to pass out of his mind, but the continual bombardment of many leaflets, pamphlets and tracts will sooner or later leave upon his mind a general impression to the effect that the advocates of this reform are wide-awake, that they have plenty of argument and that they are tireless in the presentation of that issue. That state of mind with many men is certain to be followed by a desire for investigation, which means that literature passing into their hands later will be read.

There is no means of education equal to the printed page. Nothing else can be a substitute for it. The man who circulates or distributes literature in any community can do so with the feeling that he is following the most practical and systematic plan of the

work that can be devised. The printed page cannot be so easily misunderstood as the public speaker. A meeting is held in a town; the speaker says something startling but true; perhaps he takes the train after his address for his next appointment, or at least goes early the following day; the speech is discussed on the street corners; men are thrown into discussion as to what he said; some understood him one way and some the other; no one can absolutely settle the controversy, and many a time the real argument of an address is lost sight of in a general discussion over whether the speaker did or did not say something which may not have been vital to his argument. The printed page, it is true, may provoke discussion. Men may not understand the position taken, but at least the statement of the position is there before them, in black and white, and it is easy to see whether the particular point in controversy is one that is vital to the general argument.

I would stimulate a demand for more literature, which would set our best thinkers and writers to work, which would make readers out of the masses of American citizenship, resulting in education, knowledge, political independence, and in turn, the overthrow of the legalized liquor traffic. Though my wish is not to be granted in some miraculous way, and though I recognize the fact that to train this army of workers along the literature lines, is, of itself, a life work, we are making progress and the time will soon come when a hundred will be at work where one works now.—*National Prohibitionist*.

## A French Lawyer's View of Alcoholism in France and the Remedy

**A** NOTABLE Congress held by the national temperance societies of Belgium in June was attended by the King and other state officials who heard an eloquent address by Cardinal Mercier of Liege.

There was also present as speaker, Henri Roberts, an attorney of Paris, who, after congratulating the Belgians on the progress of their struggle against alcoholism and the interest and sympathy manifested by their king, proceeded, as reported in *La Clairiere*, to tell of the adverse conditions in France, of the havoc being wrought by alcohol, the inability to secure strong legislative aid because of the political dominance of the liquor interests, and the hope cherished of great results from the education of the young.

It is not an encouraging picture which M. Roberts draws of conditions in the typical wine-drinking country.

"In our beautiful country of France, alcohol has made frightful progress and such great ravages that we may claim, alas, the sorrowful privilege of holding the first rank as regards the progress of alcoholism. Entire provinces such as Normandy and Brittany have been decimated. In some departments we have seen the population diminish by a half, in others by a third or a fourth, as a result of the ravages of alcoholism. It has been proved that 40, 50, and even 60 per cent. of the young men offering themselves for military service are unfit. A man who has written much upon this question, and who is both a philosopher and a statesman, has said that every year the progress of alcoholism in France costs the country the equivalent of an army corps.

"Professor Landouzi, dean of the Paris Faculty of Medicine, one of the most illustrious of French medical scientists, has said, 'Alcoholism is the road to tuberculosis.'

"In fact, the progress of tuberculosis in some departments is frightful, and it keeps step with that of alcoholism. Numerous cases of insanity which fill our hospitals are caused by alcoholism. The increase of criminality is due almost entirely to the progress of alcoholism.

"In our villages you can see a saloon for every two or three houses. In the larger cities they are more numerous."

The remedy proposed by the French advocate was example and instruction, the example of the mother, instruction in the schools, and when the young man enters military service, the care of an army officer who is resolutely combating alcoholism.

## Baseball Players Must be Sober

By CONNIE MACK

**T**HE following statement by the Manager of the American League Base Ball Club of Philadelphia (the "Athletics") which this season has won the largest percentage of games in the American League and will compete with the National League winning team for the pennant is of special interest. It is taken from a personal letter to the secretary of the Scientific Temperance Federation replying to an inquiry as to the customs or requirements concerning drink among baseball players.

There has been a great change in baseball during the past fifteen years. This has been due in a great measure to the class of men who are now making up baseball teams. In former years, players did not receive very high salaries, and naturally we did not get the class of players whom we are getting today, as the salaries are now very high, and we have in our profession, I might say fully fifty per cent. of college players. The balance of our players with a very few exceptions, are all well-educated men. Alcoholism is practically eliminated from baseball. For instance, I have twenty-five players. Of that number, fifteen don't know the taste of liquors. The few remaining, may, possibly, after a game of ball, take a glass of beer. They do not make a practice of this. Neither do we restrict them from doing so if they desire. They know that we do not approve of their drinking, and the positions that they hold, and the salary that they receive keep them from any such thought as becoming accustomed to drink. I often get into an argument caused by remarks that such and such a player had been seen taking a glass of beer. There is no class of professional men that is watched so closely as the baseball players. If seen taking a drink, a rumor is immediately started that the player was seen drunk last night. This travels very swiftly and is a great injustice to the player, who would not under any circumstances take the second drink. I have had so many arguments that I usually put the matter in this way: Take twenty-five from the baseball profession, and the same number from any bank or brokerage house, and you will find that the percentage using intoxicating liquors is far greater with the latter. I actually believe that in five years from this date at least ninety per cent. of the players will be strictly temperate.—*Sunday School Times*.

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'Twas said: "When roll of drum and battle's roar Shall cease upon the earth, O, then no more The deed, the race, of heroes in the land." But scarce that word was breathed when one small hand

Lifted victorious o'er a giant wrong That had its victims crushed through ages long; Some woman set her pale and quivering face Firm as a rock, against a man's disgrace; A little child suffered in silence lest His savage pain should wound a mother's breast; Some quiet scholar flung his gauntlet down And risked, in Truth's great name, the synod's frown; A civic hero, in the calm realm of laws, Did that which suddenly drew a world's applause; And one to the pest his lithe young body gave That he a thousand thousand lives might save.

—Richard Watson Gilder.



## Self-Control for Achievement.

**A** GREAT aviation contest in Boston recently brought together aviators from this country and abroad, and five hundred thousand spectators who watched from the field and from every hill-top and house-top within range of vision the various trials of skill and power. Speed, endurance, height, accuracy,—these were the tests over land and sea that won the enthusiasm, wonder, and admiration of the watching thousands.

THE marvel of it to the untechnical observer was not so much that man was actually in the air, but the power and skill that, against the force of gravitation, enabled him to leave the earth and soar up and up in widening circles until fairly lost from sight in the distance where beginnings of twilight obscured him at the thousands of feet altitude. Then came the return, when deliberately and gently as though descending from sky to earth on some unseen cable under complete control the aeroplane slipped again into its appointed place. Given the instrument, in that control lay the secret and the success of the achievement.

A MOTHER who had reared a family of children once said that experience and observation had led her to believe that one of the

fundamental and earliest qualities that should be developed in a child is self-control. It is this, President King of Oberlin has said, "that puts a man in possession of himself, and enables him to use all his resources, all his opportunities to the full." It is a positive, not a negative quality. Its motive is not mere self-repression but the highest and noblest self-expression.

IT WAS no deprivation to the aviator to control his machine instead of letting it come down any way that it would. He was looking to the perfect accomplishment of his purpose. The athlete does not begrudge the hours of training and the laying aside of luxuries in anticipation of his perfect achievement. The idea of fitting one's self well to meet adequately life's opportunities and responsibilities is perhaps the greatest incentive that can be urged for deliberately planning to leave out of life habits that will interfere with self-mastery, especially if, like the alcohol and tobacco habit, they have the power of impairing the very power on which self-control rests.

PERHAPS, unconsciously, abstinence, has been made to appear too often as a species of the virtue of self-sacrifice instead of a door to freedom. Undoubtedly it is good for human nature to drill itself in self-denial, but to regard abstention from alcohol and tobacco as a variety of it is to give their use a dignity as a permissible indulgence which is not justified by present-day knowledge.

Science indicates that the motive for abstinence should be shifted from self-sacrifice to self-mastery.



## The Meaning of Increased Use of Fermented Drinks

**P**ROBABLY no statistician will ever be able or will attempt to determine exactly the relative responsibility of distilled and fermented liquors for the evils of alcoholism. Under present conditions this is practically impossible. There is this much to be said for the proposal from some quarters to prohibit the manufacture and sale of distilled liquors as a forward temperance measure, it would tend to eliminate these liquors as a factor in producing alcoholism, and we should be the better able to see the true results of beer and wine which are now often laid off on the shoulders of the scapegoat whisky. The distilled drinks are undoubtedly responsible for a great deal of mischief, but at present they have to bear most of the onus also of damage actually done by the fermented drinks.

IT IS generally conceded that in the United States fewer persons on the whole are drinking alcoholic beverages than formerly. Since the per capita consumption still remains high, this can only mean that the persons who do drink are drinking more heavily with all that that implies in concomitant individual and social evils of alcoholism.

The question of *what* these drinkers are consuming is, therefore, an important one.

The past seventy years brought a decrease in the per capita consumption of spirits and an increase in beer, wine and other fermented drinks as shown by the following table.

PER CAPITA CONSUMPTION OF ALCOHOLIC DRINKS IN THE UNITED STATES

Year	1840	1908
Wine (gallons)	.29	.60
Malt Liquors (gallons)	1.36	20.97
Spirits (gallons)	2.52	1.44

In other words, the consumption of spirits decreased almost one-half; the consumption of fermented liquors was multiplied more than twelve times.

BUT this change in the drink used did not decrease the dangers from alcohol. On the contrary, it increased them, as the amount of absolute alcohol consumed per capita was .28 gallons greater in 1908 than in 1840. The estimate is based on an alcoholic content of 10 per cent. for wine, 3½ per cent. for malt liquors, and 40 per cent for spirits. As a matter of fact, this is probably an under-estimate as many of the wines and malt liquors contain a much higher content of alcohol. The slight decrease in the per capita consumption since 1908 is not sufficient to change these figures materially; though it is to be hoped that it is to be regarded as a favorable symptom of a genuine decline in the consumption of alcohol.

IT IS evident, however, that the chief responsibility for present alcoholism with its consequent evils must now be laid at the door of the fermented liquors, and that we can not logically entertain hopes of diminishing it by an increased use of beer and wine, even if there were no other evidences from other countries of the futility of this proposition.



### System or Casualty

IT IS said that the victory of the socialists in Milwaukee in electing a mayor was largely due to the well-planned campaign of education in socialistic principles, that twelve hundred men were pledged to distribute literature sent out by a central committee in territory assigned to each one.

The article by Mr. Stewart in another column sets out clearly the reasons for a revival of systematic literature distribution as a method of temperance education. We are past the stage where mere invective, however true or vigorous against the liquor traffic or the drink habit is sufficient to win public opinion to the staying point of continuous pressure against drink which is needed to hold progress steadily in its way. Hence it is encouraging to observe signs of a revival in interest in literature distribution. The Ohio Catholic Total Abstinence Union at its last convention endorsed a proposal to form "The League of the Cross", one feature of which is a promise by the class of members known as "promoters" to distribute each year at least two dollars' worth of temperance literature. Several of the Protestant denominations by their temperance committees or societies are distributing millions of pages yearly.

IT may well be questioned, however, whether all this work, fruitful as it undoubtedly is, might not be turned to still greater account by more systematic methods. Months before an anti-saloon campaign is begun there ought to be a definite campaign of the voters in the facts about drink itself in its practical relations to health, efficiency, and heredity. The two issues can not be divorced though they may be dealt with at different periods. Thus will be secured a well-informed public to appeal to for closing the saloon, and, what is equally important, for keeping it closed, while the beer-wagon and the licensed grocer will be less likely to reap their harvest from liquors delivered and consumed at the homes.

The SCIENTIFIC TEMPERANCE FEDERATION is prepared to suggest plans and literature for this work. Notes concerning literature will be found in the advertising columns. The fact might as well be faced that the pro-alcohol forces are already in this field supplying the people with misleading statements in attractive pamphlets sent out by the million. One does not doubt the ultimate outcome, but it is perfectly evident that system and organization and multiplication of effort in making the truth known must take the place of the now too-often sporadic and occasional effort.



Give me an ideal that will stand the strain of weaving into human stuff on the loom of the real.—*Van Dyke*.

Blessed be mirthfulness; it is God's medicine; one of the renovators of the world.—*Beecher*.

## The Special Danger in Alcohol for Women

BY ERNEST E. HALL, M. D.

**I**N addition to what has been said upon the effect of alcohol in lessening self-control, I wish to impress deeply upon you that as alcohol is used to wreck the young man, it is also a recognized agent in co-operating toward the downfall of women. This is fully recognized by those who traffic in human degradation.

A tippling woman is always under suspicion, and when once the appetite is formed a woman will go to great lengths, if necessary, to obtain the money to purchase liquor. Many a woman dates her downfall from the loss of self-control owing to a bottle of wine.

I hope the practice of tippling which has become so common in some eastern centres has not become prevalent in California. Dr. Lydston says: "If the increase of tippling among women does not indicate a lowering of the moral standard of society, the observations and deductions of physicians and sociologists on the effect of alcohol on women are fallacious."

On account of the greater emotional development of women, alcohol is especially dangerous. Flushed with alcohol, women are apt to forget the restraints of modesty. Base passions spring into expression, the conversation tends to subjects which should not be named in decent society, and when the constraints of self-respect break down with the moral elements of the brain cells, indiscretions are the natural consequence. The moral interests of the nation are in the hands of women, and the only way by which women can lead men straight is to be straight themselves.—*From an address delivered at Leland Stanford, Jr., University.*



## Physician's View of Tobacco Using

THE fact that many doctors smoke is sometimes quoted as evidence that tobacco can not be harmful else those supposed to know most about health would not use it.

Replying to a writer who claimed that smoking is not merely a sensual pleasure, but is, also, one of the agents by which man is helped to meet and conquer certain adversities and limitations of his environment, Richard Cole Newton, M. D., says (*Boston Medical and Surgical Journal*, Aug. 12, 1909):

"Dr. Francis Delafield, the well-known former professor of pathology and the practice of medicine in Columbia University, once said to me, 'Doctor, no one ever used

tobacco in any amount at any time without some injury'."

In addition to this testimony, Dr. Newton states that he does not remember ever, to have asked a medical man who used tobacco if he did not consider it injurious to himself without receiving an evasive or affirmative answer. "Man will ever try to delude himself into believing that whatever ministers to his sensual pleasures can not harm him. Yet it is quite evident that the truth about our personal habits can not be determined until in the white light of science every question of personal and domestic hygiene has been thoroughly investigated and followed out to its logical conclusion."

## Catholic Abstainers Declare for Temperance Education

AMONG the excellent resolutions passed at the Fortieth Annual Convention of the Catholic Total Abstinence Union of America held in Boston, August 7-13, were the following:

"We recognize that the preservation of the child is absolutely necessary for the future protection of both Church and State. Be it therefore

"RESOLVED: That we commend the practice of the administration of the Total Abstinence Pledge to children at the time of Confirmation and First Holy Communion. We urge their formation into societies, and beseech that parents will set the example to their children of sobriety by associating themselves with a Total Abstinence Society.

"WE recognize with pleasure that advanced education instructs the child regarding many dangers of a physical character that will confront it in the world. We can not fail to recognize from statistics that the greatest danger to the growing generation is intoxicating liquor. Be it therefore

"RESOLVED: That we urge and request introduction of text books into Catholic schools so that the child early in life will become scientifically acquainted with the dangers incident to the use of alcohol."

## Alcoholism Insanity in Italy

THERE seems reason to hope that pellagraous insanity will ultimately disappear from Italy. Yet with insanity due to alcoholism, the figures point to the opposite conclusion.

"In 1874 the cases of alcoholic insanity numbered 204; in 1895 they were 1,227, and in 1907 they were 2271 in number. Lamburini notes that a history of alcoholic excess in the parents or ascendants, can be obtained in no less than 85 per cent. of the insane."—*British Medical Journal*, May 14, 1910.

# Class-Room Helps

Conducted by Edith M. Wills

## The Theory and Practice of Personal Hygiene\*

SUGGESTIONS FOR INTERMEDIATE GRADES

**M**AY I come in and study your hygiene work a little while, Miss Loren?" said the Observer, one day to the teacher of a certain sixth-grade room where it was said the work in hygiene and temperance was specially well done.

"Certainly," was the cordial reply of the sweet-voiced, alert little teacher; "But I fear that if you wish particularly to see class work I cannot show you very much. You see," and she dropped her voice almost as though confessing a misdeed, "so much of my work has been practical. When I began to teach I used to give beautiful lessons in hygiene, but although the children were interested and enjoyed them ever so much, I was not satisfied with the progress they were making in forming hygienic habits. Presently I began to talk privately with the pupils and then I gained new light on the subject. For instance, a boy would tell me that he knew some man who had smoked for a long time and was very strong and healthy; others might speak of people who sleep in unventilated rooms or ate whatever and whenever they pleased, or took no care of the teeth, and still remained well.

"My teaching the lessons carefully was correct for there could be no permanent basis for hygienic habits without an understanding of the reasons for them. But those talks with the children opened my eyes to a clearer understanding of the fact that we deal with child not mature minds; and that since they are little influenced by things in the abstract, everything must be made concrete. The experience of children is very limited and, being immature, they cannot reason back from effect to cause, hence they find it almost impossible to believe the book and the teacher which instruct them that unhygienic living, including the use of narcotics, can decrease the joy of living, cripple efficiency, and, possibly ruin them. How to obviate these difficulties in connection with the instruction and how to make it blossom into habitually hygienic living were the questions I pondered deeply and long.

"At last I decided to make an experiment for this year at least, and now at the end of it the results, I think, have justified the experiment.

"The school nurse was lovely, perfectly willing to examine all the children as her duty required, but I believed I could secure better results if I kept her in reserve. Accordingly, although she looked in upon our room at her appointed times, and of course attended to cases of sickness, I, myself, examined heads, teeth and skins and tried to have the untoward conditions corrected, often visiting the parents to persuade them to do the proper thing. If I found it difficult or impossible to get the desired result, I could then bring up my reserves, i. e., the nurse. I would say that evidently we must refer this matter to the nurse, and the impression was given to both children and parents that any case thus referred was more serious and certainly must have attention. Sometimes merely to speak thus of the matter was sufficient. This plan has worked much more successfully than when I followed the usual method."

Dr. Gulick has pointed out that the best and surest method of accomplishing any large undertaking—and certainly the training of children which results in the formation of all hygienic habits is a great one—is to resolutely avoid attacking it as a whole. There is apt to be discouragement at the outset and the chances are that its successful completion will lag or even fail. But if it be divided into "blocks" or parts that can be conveniently handled and completed, effort is concentrated, and one block after another is attacked with fresh courage and interest and successfully reduced. Miss Loren could apply this principle because the teachers in the other grades could supplement her work. So she made especial effort to inculcate habits of ventilation of sleeping rooms, and cleanliness of the head, including hair, ears, neck and teeth, with particular emphasis on the care and preservation of the teeth, and, also, to prevent cigaret using. She carefully taught the text-book work required by the course of study, including the effects of alcohol and of cigaret using, and she proved, as any teacher can, that the subject of hygiene and temperance when presented with the same earnestness and skill as other branches, is intensely interesting to children.

Some of her methods were very suggestive and the writer jotted them down.

The dominant thought for the year's work was the formation of permanent hygienic habits in the group selected, founded on thorough knowledge of why they were important.

### VENTILATION

IN CONNECTION with ventilation the text regarding respiration, the need of pure air, and the bad feelings and results from breathing impure air, and the simple methods of ventilating homes and schools were carefully studied and explained.

How many children sleep with the window open? How far is it open? If any of you do not have it open at all, can you not hereafter open it a little, if only a crack, wide enough to slip your finger into? and later cannot you open it two fingers wide? Such questions were asked frequently, and here, as with reference to the care of the teeth, she was careful to impress the children with the idea that truth is the most important thing of all. It would, of course, be bad for the health not to open the window or to brush the teeth, but to say what was not true for the sake of having one's mates think better of one was a real harm to one's inner best self. The highest premium was set on the truth. She believed that they became quite trustworthy.

There were often home prejudices to overcome but by asking only a little at a time and persistently following up every advantage, the time came when the public opinion of that room was so strong for good ventilation that a child was ashamed to have to say that he slept in an impure atmosphere.



### The Fox without a Tail

#### CIGARET LESSON FOR PRIMARY GRADES

**A** FOX was once caught by the tail in a trap. He knew he would be killed if the hunters found him. So he managed to get away, leaving his tail in the trap.

He felt very much ashamed to be without a tail, and tried to keep from meeting any of his friends. He was afraid they would laugh at him.

After a while he called his friends together and talked to them about it.

"You really can't think," said he, "what a nice time I have without a tail. Tails are so much in the way. I can get about much more easily since I lost mine."

"I am sure you would all look a great deal better and be much happier, if you would have your tails cut off."

### CLEANLINESS

WHEN school opened, her examination of heads showed an unusual number of children whose heads were affected with pediculosis. These children were furnished at once with the regular nurse's slip informing the parents of the condition and giving directions for treatment.

She looked after these children quite often to see if they were following directions, and where they needed a little help the school nurse helped them; if they neglected to do what they ought the nurse emphasized the teacher's work. So the heads were cleansed and the teacher by inspecting all pupils once in about four to six weeks, discovered the few sporadic cases occurring and prompt treatment saved the children, their mates and teacher much trouble.

The structure of the *skin* and the need of general cleanliness of the body were carefully taught, sketches on the blackboard, etc., being used there as elsewhere to give definite ideas and fasten the teaching in mind. The superficial cleansing of ears which is apt to be in evidence when children do it for themselves was present in some cases, whereupon the teacher amused the children very much and so impressed the lesson by saying that she found that nearly everyone was careful to keep the "reception hall" (the opening to the ear) clean, but that some neglected the "attic" (the upper part) and the "back bedroom" (the deep crease in the front of the ear). From time to time when the "attic" and "back bedroom" were found not quite clean, they were referred to by these names, and so, merrily, they fared to the stage where "reception hall," and "back bedroom" were equally cared for.



"If you think so," said an old fox, "why didn't you have your tail cut off before? I think you would be very glad to get it back again if you could. You want us to have our tails cut off only that we may look as bad as you."

Once there was a boy in — (quote some known case or some clipping if such is available) who learned to smoke. He began by using cigarettes which are about half as big as your little finger.

Very soon this boy learned to smoke a number of cigarettes each day and to draw the smoke into his lungs. This made him weak and he became a slave to cigarettes. His appetite grew poor. He grew nervous and could not sleep so well as he used to. Exercise made

his heart beat so fast that he could not enjoy the ball and other brisk games. He had to look on while the others played. He did not grow so fast as the other boys and was not so sound and strong. He could not study and keep up with his class. He became untrustworthy and nearly everybody lost respect for him.

He was afraid the other boys would laugh at him, so he said to them, "You really can't think what a nice time I have with cigarettes. They are not at all in the way and I am sure you would look better and be much happier if you learned to smoke them." But one of the boys said, "You only want us to smoke cigarettes so that we will not get along any better than you do."—Adapted from Coleman's *Physiology for Beginners*.

#### LESSON SUGGESTIONS

The preceding story may be used quite apart from the regular lesson as supplemental reading lesson, without comment, the pupils being left to make the application; it may be used for reproduction in language work; the story may be read, or, better, told and discussed or used as the basis of an oral lesson, simple explanations being made as to why the results mentioned in the next to the last paragraph, followed; or, after reading or telling, the pupils may be asked to mention the different ways in which the boy was harmed, these written upon the blackboard. If used in a grade where books are used, the preceding may be written in question form as, "Why could he not study and keep up with his classes?" and all pupils required to copy them, look up the answers in text-books and write them out for the next lesson.

#### ILLUSTRATIONS

Pictures of the heart, lungs, and other illustrations, avoiding pathological and other unpleasant ones, may be used to fasten the facts in mind in as many ways as possible. One means of doing this with small children is to use the main facts as a picture story as suggested below. This may be written on the blackboard, dashes taking the place of words in parenthesis, the children suggesting the proper words to be filled in; or, it may be written on a sheet of brown paper, chart fashion, the words represented by pictures or simple drawings, and the children asked to read it. If made in this manner it may be used for other classes and for review work. For such work the children may copy the sentences and insert pictures cut from advertisements or during the paper-cutting work. The

heart and lungs would have to be represented in the latter way on the children's papers though the teacher might find one set of cuts in an old book. The picture story is planned with special reference to the ease with which the objects may be cut or procured. "Cigarettes" may be cut as single ones or represented by a cigar box; "food" by a banana or apple, an egg and a glass of milk; "sleep" by a bed in which a child is resting, or by a face with the eyes closed; "ball" by a ball and a bat; and "crooked" and "straight" by crooked and straight lines.



#### PICTURE STORY

The (boy) who smoked (cigaretts) did not enjoy his (food) so much.

The (cigarettes) harmed his (lungs) and his (heart).

He did not (sleep) so well.

He could not play (ball) very well.

He found it hard to learn from his (books).

He told (crooked) stories instead of (straight) ones.



#### Sandow's Message to Boys

If I had to speak to an audience of boys I should say, "If you only realized what you are bringing upon yourselves, and what will be the result of this smoking during your young days and in after life you would give it up at once.

It is really a question of what you would wish to be. Do you prefer to be a stunted, emaciated specimen of humanity, whom every healthy person looks down upon with pity, or do you wish to be pointed out by passers-by as a finely-set-up, healthy man, whom everyone of these aforesaid stunted specimens looks up to with envy?

If a man met you in the street and offered you some poison you would think he was mad, would you not? You would refuse to take it, of course, and yet if a man offers you a cigarette, and you accept it, you are doing just the same thing as if you accepted the poison. By smoking you are slowly but surely poisoning the system and sapping the energy which you should reserve for the duties of life.

Do not abuse the body which God has given. But that is what you will do if you smoke. Throw away the noisome cigaret, and acquire habits that will make you a healthy and vigorous man!"—English *Band of Hope Chronicle*.

## The Blood and Circulation

### FOR ADVANCED GRADES

*Purpose*—(1) To show the wonders of this vital mechanism and the means by which it can be made more effective.

(2) To show how headache mixtures and nicotine impair this system, and so, health.

(3) To correct the fallacious idea that alcohol is a valuable drug capable of giving strength in weakness or prolonged exertion; and to show the injurious effects it has upon the blood vessels and upon the blood and the protective mechanism abiding in it.

*Lesson Materials*: (1) Scheme, clippings, text book, and supplementary books and special articles on pages 3, 16, of this JOURNAL; (2) model of heart; (3) pictures and diagrams of blood cells, organs, disease germs, etc.; (4) slides showing blood cells and heart tissue; (5) if available, blood from slaughter house, part of which may be tested chemically, part defibrinated, and part coagulated to show serum and clot (note similarity to coagulation in milk), etc.—most text-books give directions for these experiments; the heart of a calf or sheep, or even of a fowl, with short section of accompanying veins and arteries. Examine particularly valves of heart and veins, linings of all, stiffness of walls of arteries, and note toughness of fibre, etc.; (6) bulb syringe with tubing and different sized nozzles to show action of heart and blood vessels.

*References*: Human Physiology (Ritchie), The Body at Work (Gulick), Alcohol and the Human Body (Horsley and Sturge).

*Lesson Suggestions*. In presenting this topic, the article on page 3 including the section of the same on page 16 which is a remarkably clear presentation of the whole subject of the blood and circulation and the injurious effects of alcohol, may be read by the pupils and discussed, notes being taken of the important points; the teacher may read it or it may be used as a reservoir from which to draw abundant and authoritative illustrative material. Following this, the scheme given and the text-book may be used. Make points clear by use of available illustrations of disease germs, blood cells, etc., and by experiments.

Probably not all the points regarding alcohol and nicotine would be covered in any one presentation, but in view of the fact that alcohol and nicotine in headache mixtures are especially injurious to this system, and also on account of the wrong conception of their effects, it is important that a full treatment be given.

1. GENERAL FUNCTIONS OF THE CIRCULATORY SYSTEM
  - a. To carry food, water, and oxygen to the cells.
  - b. To remove wastes from the cells.
  - c. To distribute heat and to regulate heat.
2. COMPOSITION OF BLOOD
  - a. Corpuscles: red, white.
    1. Size, shape, origin (Horsley says both sorts are produced in the bone marrow), function of each.
    - b. Plasma. (When the plasma has exuded through the capillaries it is called lymph.)
    1. Composition: water, nutritive substances, wastes, fibrinogen, blood complements.
    2. Functions (bring out the important function of lymph as well as of the plasma in the blood vessels).
  3. ORGANS OF CIRCULATION
    - a. Heart, arteries, capillaries, veins and lymphatics.
    - b. Location, size, shape, structure, functions of each.
  4. CIRCULATION IN DETAIL
    - a. Lesser and greater circulations. (Trace blood through entire circuit by means of chart or simple blackboard drawing.)
  5. CONTROL OF THE HEART
    - a. Vagus nerves (the reins); (b) sympathetic nerves (the whip).
    - b. Origin and influence of each.
  6. CONTROL OF ARTERIES AND TISSUE SUPPLY
    - a. Vessel constrictors or vasoconstrictors.
    - b. Vessel dilators or vasodilators.
  7. HYGIENE OF THE CIRCULATION
    - a. *General helps*. Plenty of oxygen and sufficient sleep during which the heart may rest and the supply of red corpuscles be recruited. Deep breathing helps the lymph circulation in the trunk. Fresh air on the skin, and the cool bath or rub-down stimulate the surface capillaries. (The latter affects surface capillaries and their walls relax. The inrush of blood reacts on all the contributing arteries and a readjustment of many vessels takes place rousing them from their inert condition.)
    - b. *Exercise*. Have each child count his pulse when sitting quietly, again after moderate gymnastics, and then just after recess or strenuous gymnastics, making note of the rate in each case. How long does it ordi-

narily take for the blood to make the complete circuit? What is evidently the effect of exercise? Which carries off the more waste and affects the banks the more, the swift or the sluggish stream of water? If the blood goes with more force and speed all through the system, what would be the effect on the various tissues?

Of what tissue is the heart composed? What is the effect upon any muscle of wisely exercising it? What, then, would be the effect upon the heart of proper general exercise? Show that by causing the heart to contract oftener and more vigorously it so exercises it that it is strengthened. Ask the children to contract the arm strongly and feel of it. What is the feeling? What probable effect of this strong contraction upon the veins and lymph tubes imbedded in the muscles? How could this help the circulation and the heart? Note that exercise is particularly important to the lymph circulation, because having no special propelling organ like the heart, it depends largely upon muscle contraction for its movement. Exercise and particularly massage often rests one greatly because the fatigue poisons which are in the lymph and are but slowly being thrown off on account of the sluggish circulation of the lymph and blood are immediately cared for when the circulation is hastened.

On the other hand, point out the dangers of excessive or unusually severe exercise, particularly upon the heart of the adolescent already worked nearly to its limit, and upon that of the aged, the muscles of whose hearts and blood vessels have somewhat lost their power of elasticity and hence of sudden adjustment to unusual conditions.

c. **Happiness.** Point out that a feeling of well-being and happiness tends to increase the size of the blood vessels and by decreasing the friction helps the heart; worry constricts them and the muscles of the chest. This gives the feeling of a load on the heart and increases the work of the heart, and by hindering the circulation decreases the nutrition of the cells and the power of the blood to remove wastes.

#### 8. SUBSTANCES HARMFUL TO GOOD CIRCULATION

- a. Water containing an *excess of earthy or mineral matters*. Point out the advantage of drinking rain or distilled water, especially for the middle-aged and old, because lime and the like tend to make the "pipe stem" blood vessels.
- b. *Headache mixtures*, nearly all of which contain acetanilid or similar coal tar derivatives. Explain that it is by powerfully depressing the heart that the pain is eased, hence the danger of overdoses which may cause acute and even fatal poisoning, or of chronic cardiac weakness due to continued use. (For full discussion of this subject, see page 123 "Follies and Dangers of Using Nostrums," *Journal*, April, 1910).
- c. *Nicotine*. (See also Anti-narcotic Number of *Journal*, May, 1910).
  - 1. Smoking by frequently raising the blood pressure (by vasoconstriction) tends to produce arterial disease. (Experiments of W. Emerson Lee in Pharmacological Laboratory, Cambridge, Eng.).
  - 2. Prolonged use of tobacco very frequently produces "functional disturbance of the heart, characterized by feeble, irregular, intermittent pulse and a tendency to palpitation. Sometimes attacks of heart pain simulating the breast-pangs of angina pectoris occur." (Harrington Sainsbury, M. D., Consulting Physician to City of London Hospital for Disease of the Chest, etc.). (Note that cigaret users often have weak hearts and are usually unable to go into athletics.)

#### 9. NATURE AND EFFECTS OF ALCOHOL

- a. Not a stimulant but *an irritant narcotic—a depressant*.
- b. *Reflex effects* before absorption.
  - 1. Transitory effects due largely to irritation of mouth, throat and stomach.
- c. *Specific effects* after absorption.
  - 1. Effects on the heart: (x) cardiac pump crippled and force diminished" by acute poisoning: (y) fatty infiltration and dilation caused by chronic drinking especially when large amounts of beer are consumed.
  - 2. In therapeutic doses tends to lower blood pressure.

3. Habitual use of alcohol tends to "initiate and precipitate" the brittle or the softened conditions of the blood vessels usually due to old age.

4. Alcohol injures the functional activity of the blood: (x) by impairing the oxygen-carrying power of the red corpuscles; (y) by benumbing the leucocytes so that they are less able to destroy disease germs: (z) by lowering the germicidal properties of the plasma.



## The Circulatory System

BY JOHN HAY, M. D., M. R. C. P., ENGLAND

THE HEART is a hollow muscle containing certain valves. With each beat the muscle fibres harden and shorten, and the walls press on the contained blood, forcing it into the large blood vessels, leading from the heart. Between each beat there is a resting time during which the heart muscle remains placid. It is during these periods of rest that the heart recovers itself and prepares for its next beat. The heart must continue beating regularly; it is impossible for it to cease for more than a very brief time without endangering the life of the individual.

It must, therefore, at very short intervals, alternate its period of activity with periods of quiescence. The blood actually in the chambers of the heart has very little to do with the nourishment of the heart itself; this is nourished by blood conveyed to it in small vessels lying in the muscular walls of the heart. The blood flowing through these small vessels supplies the muscle fibres with the necessary oxygen and foodstuff, and takes up from the muscle fibres of the heart the waste products—the detritus—which result from the activity of the muscle, and which would poison it if allowed to accumulate. This interchange takes place chiefly during the resting periods.

The blood which is expelled from the heart with each contraction is poured into the arteries. These tubes have elastic and muscular walls, and exert pressure on their contents; in this way the intermittent action of the heart is transformed into a continuous force, and the blood pours steadily through the vessel. This force is needed to overcome the resistance to the passage onward of the blood met with in the smaller vessels and capillaries. By such means the blood pressure is maintained at the level required for a healthy condition of life. High blood pressure adds greatly to the work of the heart, low blood pressure indicates a feeble and defective circulation.

Regulating the frequency of the heart beat are certain groups of nerve cells in the central nervous system. These nervous centres can make the heart beat faster or slower as occasion demands by sending messages down to the heart through the nerves.

There is another group of nerve cells in the central nervous system which control the small arteries all over the body. From this group of nerve cells impulses are constantly passing down to the muscle fibres in these small vessels, and it is the contraction of these muscle fibres which prevent them from dilating.

The heart is, therefore, an intermittent pump forcing the blood into the arteries under pressure. The blood flows along the arteries, floods the meshwork of fine hair-like tubes, called capillaries, where it comes into intimate relationship with the tissue cells.

The rate of the flow from the arteries into the capillaries depends on the calibre of the smallest arteries, and this is influenced by the contraction of their muscular walls as described above. Finally, the blood returns to the heart through the veins and is there purified and cleansed in the lungs.—*British Alliance News*.



## Causes of Consumption

THE French Permanent Committee on Tuberculosis at a meeting held June 11th, 1910, listened to a report by M. Lancereaux, who had studied 2,192 hospital cases of tuberculosis. His classification of the causes was as follows:

Alcoholism,	1229
Insufficient air and sedentary life,	651
Privation,	82
Misery,	91
Probable hereditary,	93
Contagion,	48

More than half of the tuberculous cases were alcoholics of long standing.

Inquiry was made as to the kind of drinks used, and they were found to be:

Liquors and essences	259 cases
Essences and alcohol,	254 cases
Alcohol alone,	91 cases
Alcohol and wine,	83 cases
Wine,	144 cases
Mixtures (alc. ess. wine.),	388 cases



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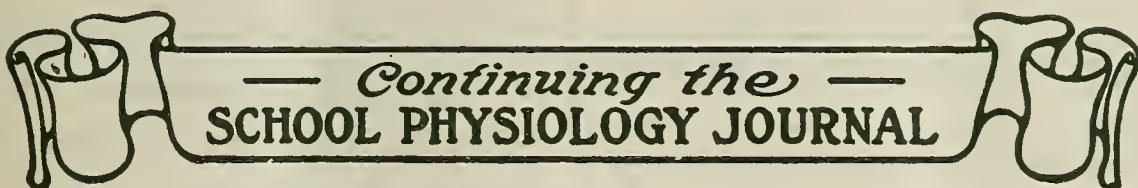
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—Theodore Roosevelt.



## Wastage from Drink as a Factor in the Increased Cost of Living

The Massachusetts Commission on the Cost of Living was created by the legislature in 1910 to investigate thoroughly the cost of living in that state, and to inquire into the causes of the increased prices of the necessities of life. The members of the Commission were chosen with a view to their special knowledge of law, labor, trade and political economy. The following article is from the portions of the Commissioners' report dealing with waste as a factor in increasing the cost of living.

THE causes that have brought about the recent advance of prices fall into two main groups: First, increase of uneconomic expenditures through waste, destruction, and general extravagance; second, increase of economic expenditures, brought about by rise in prices.

The chief items in the increase of uneconomic expenditures are enlarged outlay for war and national armaments, higher scale of governmental expenditure in general, and cost of the burden of crime, pauperism, insanity, accident, disease, unemployment and other forms of social wastage. These are all items of public and social expenditure. Meanwhile, also, individual expenditure of an uneconomic character has increased, including outlay for drink, luxury, amusement and wasteful or injurious forms of consumption. . . . .

### THE BURDEN OF THE UNPRODUCTIVES

As long as the efficient members of every state must carry the inefficient on their backs, as long as the productive members of society are compelled to support the unproductive, living must continue to cost more than it should. . . . .

It has long been known that the immoderate use of alcoholic liquor is a menace to the happiness and an injury to the welfare of those peoples among whom it is prevalent, but not until the science of statistics was applied to the problem was the magnitude of its economic importance appreciated. Of late we have come to know that by sapping vitality, by bringing accident, disease, and death,

it causes economic waste of enormous proportions.

The total cost, direct and indirect, of the liquor traffic of Massachusetts is beyond the power of man to compute. How much of the \$19,000,000 annually spent in this state for public and private support of the dependent classes [penal institutions \$1,829,000; pauperism and charity \$14,500,000; insanity \$2,640,000] is to be attributed to this cause can not be ascertained, but it is a very large percentage, and huge as the amount is, it is as nothing compared to the indirect cost. The problems of drink, poverty, unemployment, crime, mental and physical unfitness are so interwoven that it is practically impossible to separate them. Drink in all its combinations adds to every trouble of life, and but for it the problems of sickness and old age could be met much more easily. The tremendous waste due to intemperance constitutes a burden that falls most heavily on those least able to bear it.

### A WASTE CUTTING BOTH WAYS

Massachusetts was a pioneer in scientific investigation of this phase of the question. In 1895, the Bureau of Statistics of Labor published the results of an exhaustive study of the relation of the liquor traffic to pauperism, crime, and insanity. In the matter of pauperism it found that out of 3,230 paupers in the state institutions about 65 in every 100 were addicted to the use of liquor, and that about 16 in every 100 of all the paupers were immoderate drinkers; about 39 in every 100

attributed their pauperism to their own intemperate habits; about 5 in every 100 considered their pauperism due to the intemperance of their parents, one or both; and about 1 in every 100 attributed their pauperism to the intemperance of those upon whom they were dependent, other than parents. This made 45 per cent. of the total who attributed their pauperism to the intemperance of themselves or of others.

This would indicate little progress since 1821, when a special committee of the town of Boston, created to consider the subject of "pauperism at large," and headed by Josiah Quincy, reported to the Legislature, as the result of the experience of both England and Massachusetts, "that of all causes of pauperism, intemperance in the use of spirituous liquors is the most powerful and universal."

In the matter of crime, the Bureau of Statistics of Labor found that about 68 in every 100 included drunkenness, either wholly or in part; and that in the case of about 84 in every 100 of all convictions the intemperate habits of the offender led to a condition which induced the crime. In 8,440 cases in which the offender was convicted of a crime other than drunkenness, about 43 in every 100, were cases in which the offender was under the influence of liquor at the time the offence was committed. Nearly 51 in every 100 of the crimes other than drunkenness were committed under conditions created by the intemperate habits of the criminal.

The Massachusetts Bureau found, upon investigation of the insane in public institutions, that of 897 cases where the facts could be determined, there were 616, or about 69 in every 100, in which one or both parents were intemperate; and that of 1,506 cases there were 383, or about 25 in every 100, in which the intemperate habits of the person were considered the cause of insanity.

The economic effect of all this shows itself in two directions: first, in the expense entailed on the community in costs of government and charity; and second, in the injury to the productive efficiency of the community.

In the matter of direct expenditure, the recent special report of the trustees of the Foxborough State Hospital put the annual cost of drunkenness to the citizens of the state at a point far beyond \$1,000,000.

As a matter of fact, if drink were to be held responsible for a proportion of the public payments—state, county, city, and town,—for penal institutions, police departments, the judiciary, asylums, poorhouses, etc., as well as of private charity, corresponding to the proportion that liquor bears to other causes of conviction and commitment, the

grand total of expense in Massachusetts would be found not far from \$10,000,000 a year; and if to this we added the cost in disease and death, the total record would be appalling.

The individual wastage through its use is of course beyond measurement, but is surely enormous.

#### ONE DEATH IN SIX DUE TO DRINK

The economic waste of human life is also to be considered. Actuaries have determined that in the case of several English insurance companies, with statistics of more than forty years, non-abstainers have a death-rate exceeding that of abstainers by 23 per cent. Certain authorities have asserted that in alcohol-using countries 10 per cent. of all deaths are directly or indirectly caused by the use of liquor. In order to ascertain the approximate percentage of such deaths in this state, we addressed a circular letter of inquiry to Massachusetts medical examiners. The replies indicated an average of 16 per cent. in the case of 21 districts.

The cases of death that come under the purview of medical examiners are as a rule those resulting from crime, accident, or sudden and unaccountable causes; the crimes attributable to alcohol are usually those of violence, since alcoholism in some produces insane tendencies to violence, and in many a mental stupidity or idiocy that destroys or dulls the instincts which make for self-preservation and avoidance of danger. The judgment of regular practitioners and the records of hospitals would doubtless give a more accurate knowledge for guidance, but these could not be obtained in the time at the disposal of the commission.

#### CHANGES IN DRINKING CUSTOMS

The use of alcoholic beverages in this country has rapidly increased. That of distilled spirits remains about stationary, the average retained here for consumption having been 1.45 gallons per capita in the years 1871-78, and the same in the years 1901-08; but the average for malt liquors in the same periods rose from 6.72 gallons a year to 18.88 gallons. In 1908 it was 20.97 gallons.

Observation leads us to believe that there has been in Massachusetts a material diminution of public drinking by the well-to-do in the last generation, with less use of wine at banquets, of punch at college reunions, less resort by business men to public bars, less consumption of hard liquors in clubs. But the statistics indicate that there must have been great increase in the use of malt liquors in homes, and of resort to saloons by wage-earners.

## NECESSITY OF LEGISLATIVE PROGRESS

With the spread of education and the general progress of society, there ought to be a lessening of the evils produced from such a cause as this. We are not of the belief that the primary cure is to be found in legislation.

.... The most important thing is to elevate the standards of the community, for its moral sense is the most powerful of all agencies. But the strong arm of the law often has to be called upon to enforce the common will. If it be the case in the course of a generation and more of universal schooling, of intellectual advance and moral growth, we have so progressed that public sentiment will support a more rigid application of its views on the liquor question, legislation should keep pace therewith. In a generation our laws have made no important advance in this matter. It may well be considered whether we have not reached the point where the more conspicuous of the evils may be suppressed, perhaps by abolishing that institution peculiar to America, the source of our greatest economic in-

jury and private misery, the resort where liquor may be sold without a genuine use of food, the saloon.

We heartily indorse the proposals of the trustees of the Foxboro State Hospital for more scientific and effective treatment of dipsomania, and we believe that their adoption would mark a long step toward the treatment of inebriety as a disease and not as a crime.

That alcoholism is a monstrous evil, is beyond question; but it is a mere evasion of our humanitarian responsibilities to assert that the majority of our criminal evils spring from alcoholism. Crime and sin are coeval with humanity; they exist in communities where alcoholism is practically unknown; and while crime and social weakness must always be aggravated by the waste incidental to alcoholism, the important thing is to learn the basic causes of alcoholism. When we learn them and can remove or remedy them, while we may not cure crime, we shall at least eliminate many of the conditions that fertilize the soil of lawlessness.

## Which is Cause and Which is Consequence

BY E. L. TRANSEAU

THE old dispute as to whether the hen preceded the egg or the egg the hen, is paralleled today in the numerous attempts to find a prophylactic for alcoholism.

The necessity of knowing the cause, or causes, in order to prevent the universally acknowledged evil has led to much speculation as well as to much earnest study from various standpoints. Some have accounted as causes influences which further inquiry shows to be effects. A recent school textbook on hygiene, for instance, asserts that "poverty is almost exclusively the cause of alcoholism", an assertion that is out of harmony with experience in hard times when poverty increases, for then the consumption of alcohol tends to decrease.

The late Dr. Norman Kerr, an English specialist in inebriety, who sometimes had more than 1,500 cases under his care at a time, has furnished figures and evidence on this point. He said that a large proportion of those treated in inebriate homes were in comfortable circumstances, that wealth seemed to be a predisposing influence because of its opportunities and purchasing power. Many destitute inebriates also applied for treatment in the homes, but the majority of these had fallen into inebriety when they were in easy or wealthy circumstances. They had squandered their means in drink and

their destitution was the result. Dr. Kerr's conclusion from his large experience was that in most instances intemperance is the cause and not the effect of poverty.

## PHYSICAL OR MENTAL DEFECTIVENESS

Mental defectiveness is often given as a cause of inebriety without consideration of the cause of the defect. Dr. Kerr furnishes from his extended experience some valuable information on this point. He counts as among the most serious and saddening of the evil influences of alcohol "brain degeneration involving a delicate susceptibility to narcotic influences, neurosis allied to inebriety, and defective will-power" as well as the drink impulse itself.

He observed children born more than a year after the father began to suffer from brain disease or inebriety, who exhibited from their earliest years a propensity for intoxicating drink. In more than one family the children born before such attacks in the father showed no such inclination, while those born afterward showed so strong a tendency that "only by constant supervision could they be kept from strong drink as soon as they began to crawl".

Fully 50 per cent. of the inebriate patients in his own practice had inebriate parents, and this he considered an underesti-

mate because people are generally reluctant to give full information about this weakness in their relatives.

#### THE PERVERSION OF A UNIVERSAL DESIRE

The theory that alcohol satisfies a universal desire and that, therefore, its use must be normal to man is a frequent explanation of the prevalence of alcoholism. "Primitive man, and often the civilized man, takes to alcohol as naturally as a duck to water", says an English writer on the "Evolution of the Alcoholic".

This universality seems not to apply to women and children, except in cases of marked hereditary taint, in which instances it is an effect instead of a cause.

Some writers think that the universal desire springs not from a liking for alcohol itself, but for the "heightened state of consciousness" which it artificially creates. There may be some foundation for this view, but when we consider the manifold normal and beneficial ways in which the desire for a heightened state of consciousness can be satisfied we see what a stupendous blunder has been the suggestion to satisfy it with alcohol.

Every great poem, every masterpiece of music, painting, sculpture, architecture, arose from an exalted state of consciousness, reaching what in the case of the poet has been not inaptly termed "a fine frenzy". The inspiring motive of every great work of literature and invention has had its origin in a similar mental state, as have many humbler works resulting from worthy and well directed activity.

The enjoyment of a heightened state of consciousness may well be looked upon as a mainspring to man's advancement, but what a perversion to substitute for the normal impulse to such a state the influence of a drug which only simulates the effect for a few minutes and leaves the drinker robbed of the joy of worthy achievement!

#### CIVILIZATION'S DOUBLE

Another explanation of inebriety is that the use of alcohol is a necessary accompaniment, in fact, a mark of advancement in civilization, because forsooth, the most alcoholism is found in the most advanced nations. Civilization must, therefore be regarded as a cause of alcoholism!

The liquor interests go even further and assert that man's advance in civilization is a result of his use of alcohol.

But when we find that alcoholism is most common among the submerged classes, that it pulls the efficient down into the ranks of the inefficient, we must conclude that its use

is not one of the wheels of progress, but is instead a drag upon those wheels. Modern study shows also that it is not a necessary but a preventable drag.

#### EXCITING AND PREDISPOSING CAUSES

Besides the theoretical explanations which on close investigation seem to be effects rather than causes, there are several circumstances which undoubtedly exert much influence in starting individuals on the road to alcoholism. In the list named by Dr. Kerr are the following: Nerve shock, injury to the head and other parts, disease, maternity, occupational influence, climate, idleness, overwork, and overstrain, sociability, monotonous dullness, pecuniary and domestic trouble, insufficient diet, bad hygienic conditions, ill-health in which alcohol is taken to relieve disagreeable feelings of faintness, depression and the like, and the giving of alcohol to children which originates in them an abnormal craving for it.

Another specialist on inebriety, Dr. R. Welsh Branthwaite, His Majesty's Inspector under the Inebriates Act, England, has given a list of predisposing causes in what he considers the order of their importance. These are: (1) a neurotic heredity, especially of mental diseases; (2) epilepsy, or similar defect which has caused habitual drunkenness in forbears; (3) imperfect nutrition during fetal life, and the influence of alcohol drinking by the mother during pregnancy; (4) injury at birth; (5) the administration of alcohol during infancy; (6) falls, blows, or other injury, and bad feeding or general neglect during childhood; and (7) any shock, injury or disease during later life which affects the nervous organization injuriously, and thereby impairs vitality and resistance to impulses.

"Given these conditions or some of them, the exciting causes may practically be summed up in one word—environment."

#### ONE COMMON UNIVERSAL CAUSE

Dr. Brandthwaite's term "environment" contains the kernel of the whole bristling burr of causes—the custom common in nearly all classes of environment. A striking verification of the influence of environmental custom is afforded by the results of the inquiry reported by Geo. E. Partridge, in the *American Journal of Psychology* in 1900. He inquired of sixty-five victims of alcoholism confined in criminal and inebriate institutions where and when they began to drink. Only two had taken their first glass alone. It was while "out with the crowd" that they began and afterward continued the

drinking habit. Seventy per cent. began before the age of 21.

In the drinking customs is the ever-present suggestion on occasions most varied and diverse. But for the custom of using alcoholic liquors as beverages they would not be thought of as a means of forgetting misery, of celebrating a victory, of relieving depression, of enlivening social intercourse, of inviting sleep, and on all the other thousand and one occasions on which the suggestion to take alcohol presents itself.

#### THE OUTGROWTH OF PAGAN SUPERSTITION

When we attempt to trace the origin of the alcoholic custom we are carried back to the closed portals of pre-historic antiquity, from which intoxication emerges as an accompaniment of religious ceremonies. The god Indra of Hindu Soma worship was thought to be in wine, as was Dionysius of the later Greeks, and men worshipped the god by becoming intoxicated. To the superstitious imaginations of those times the strange behavior of the insane, the epileptic, the drunk-

en, was a manifestation of the supernatural, something to be reverenced and attained.

From those practises connected with religious rites the train of hereditary effects now familiar to students of alcoholism, easily followed. The origin of the epileptic, the insane, the mentally defective, who most strikingly "takes to alcohol as a duck to water", is there accounted for. Each succeeding age not only followed, sheep fashion, the practices of the preceding, but extended the list of occasions for indulgence in this source of mental illusion.

#### CONCENTRATE UPON THE CUSTOM

When all who deplore the evils of alcoholism are willing to unite upon the one aim of abolishing the custom of using alcoholic drinks as beverages, we shall begin to foresee the day when the wine-cup, the beer-mug and the decanter will appear as ill-befitting enlightened man as does now the silver mounted snuff-box from which our most dignified statesmen a hundred years ago punctuated the periods of their eloquence.

❖

It is not enough that we close saloons—It is not enough that we teach men obedience to law. We must teach the childhood and the manhood of this nation the value of abstinence and sober living.

❖

—Ex-Governor Hanly.

❖

#### A Vanishing Treatment of Snake Bite

**I**T used to be considered an unanswerable argument against prohibiting the sale of intoxicants to inquire "What could we do without whisky for treating snake-bite?".

It was never so vital a question in the United States as appeared in the seriousness with which it was asked. But the joke of the rattlesnake of the community engaged a week ahead for the convenience of drinkers seeking an excuse has nearly served its day in the humorous column, as medical experience makes it pointless.

Dr. Prentiss Willson in a recent article in the *Journal of the American Medical Association* (Aug. 27, 1910), reviewing a series of 740 cases of snake bite poisoning found that of 99 cases due to the copperhead there were only five fatalities. Of the five, only one could properly be attributed to the direct activity of the venom. One was undoubtedly due to a septic infection to which the treatment of the injured predisposed. In the remaining three cases, the alcoholic intoxication added to the venous intoxication undoubtedly contributed to the result. Here is fresh evidence of the statement made by another physician some years ago to the effect

that death from snake-bite under whisky treatment was probably nearly as often due to the whisky as to the venom.

The modern treatment advised by Dr. Willson is similar to that described in an account in the *Lancet* (March 5, 1910), of a serious case of East Indian cobra bite treated without alcohol and followed by recovery.

The victim, a man in the employ of the East Indian Railway company, put two strong cord ligatures above the bite himself, and was taken to the hospital by his friends, two hours after the bite. A tourniquet was at once added to the cords. Deep incisions were made about the bite and free bleeding allowed for ten minutes, then the wound was washed with hot water and crystals of permanganate of potash were rubbed in. The tourniquet was taken off and the cords were loosened as the man could not endure the pain longer, but within half an hour he sank into unconsciousness, pulse very weak owing to absorption of poison not eliminated by the bleeding. No alcohol was given him but ether, strychnine, digitalis, etc., and he gradually regained consciousness and strength of pulse and recovered.

## The Higher Moral Standpoint— Moderation or Abstinence

By L. LINDRUM, KIEL, GERMANY  
Editor of *Die Enthaltsamkeit*

**I**N dealing with alcohol one can no more speak of "rational moderation" than he can speak of a justifiable use of opium, or morphine. Poison is poison even in the smallest doses. All standards of moderation in the use of alcohol must necessarily be based upon the dangerousness of the evil to the people. First: because it is impossible to determine what amount is generally uninjurious. Secondly: because the way to immoderation lies through "wise" moderation.

What then is the morally higher standpoint? That is moral which corresponds to good customs. A custom is good when it conduces to the advantage of the generality. It is bad when the generality suffer from the results of it. The greater the blessings a custom brings, the higher it stands morally. The more general happiness it destroys, the more immoral it is.

The alcohol custom brings 250,000 of the German people annually before the criminal courts; it costs us every year 50,000,000 marks [\$12,500,000] for the care of the poor; it drives 1,000 Germans annually to suicide, and as many to fatal accidents.

The alcohol custom forces 16,000 every year into hospitals; it is to blame yearly for at least 30,000 cases of insanity. It shortens life, prolongs illness, increases liability to infection, diminishes fitness for military service, causes degeneracy in the next generation and promotes the social disease. It is a source of want, poverty and misery of all kinds.

The alcohol custom is an immoral, an evil custom. Whoever gives support to such a custom is an accessory to its consequences. Whoever by his example opposes it, helps thereby to promote the welfare, health and domestic happiness of his fellowmen.

The verdict on the alcohol custom must therefore be: Not moderation but abstinence is the morally higher standpoint.

But does not battling against temptation strengthen character more than fleeing from it? One who defends alcohol on the grounds of moral gymnastics is like a trainer who would exercise his athlete with dynamite bombs. The battle of life provides plenty of opportunity for exercise in self-control. Alcohol is most unsuitable for the purpose because it is a stupefying poison which weakens the brain and benumbs the will.

So long as the present drink-compulsion prevails, to refuse an invitation to drink is a better means of strengthening character than to accept.

"Moderation", wrote Cicero, "is the unrestricted sway of reason over appetite and all wrong desires of the heart. It means abstinence from all things which are not good, whose nature is not wholly uninjurious."—Translated for the SCIENTIFIC TEMPERANCE JOURNAL.

## Caveant Medici

By REV. ULRICH F. MUELLER, C. P. P. S.

**I**N a certain parish, a mission had been held with great success. A man who for years had lived the life of a drunkard was converted, took the pledge and received the sacrament for the first time in many years. For ten years he kept his pledge and became a model in his parish. Then he became sick. The physician—no doubt an old-timer—advised a little whiskey to "stimulate the appetite."

The man feared the return of his former passion, so went to the missionary who had given him the pledge and asked whether he should obey the advice of the physician. The good missionary knew all about the moral part of the drink question, but was, unhappily, rather ignorant as to the physiological effects of alcohol and also did not care to "correct a physician," so he advised, "You may obey your physician, but be on guard lest you contract again a strong liking for this poison."

The man went home, obeyed, but soon forgot the warning, became a drunkard again, dropped his church affiliations once more, and died soon after of delirium tremens.

## The Greatest Crime Breeder

WHAT is the greatest source of crime? Is it poverty and misery? Is it unfavorable social conditions? Is it hereditary affliction? Is it defective education and training? These questions were presented and discussed by Dr. Pollitz, penal hospital superintendent of Dusseldorf, in a lecture on the psychology of crime, at a meeting of scientists in Tenbangen and afterwards published in a memoir. In it he says that the close relation existing between alcoholism and all kinds of crime has been much discussed since the alcohol question has received so much attention, and it is no longer seriously denied. He declared alcohol to be the most evident and most dangerous cause of crime as well as of much misery and evil, and closes by saying that the hopeful movement against alcohol offers the best prospect for the prevention of the crime.—*Hygienische Rundschau*, (Oct. 19, 1909).

"Hast thou kept honor, and sweet courtesy kept,  
Then is no loss that may be wailed or wept."

## The Social Viewpoint

The temperance movement is a reasonable attempt to recover for the Country the sources of its permanent wealth.—*Archbishop of York.*

### Lowering the Capacity for Social Service

**T**HE national crusade against alcoholism in Budapest is the title under which a special correspondent of the *Lancet* (1909), reported a meeting of the National Anti-Alcoholic committee. The presidential address was delivered by Count Andrassy, Minister of Internal Affairs in which he said:

"Alcoholism is one of the greatest scourges of mankind. It undermines the resisting power of the body, which easily becomes a prey to bacilli and other poisonous agents. The soul loses its elasticity and easily becomes the prey to sin. Weak body and weak soul undermine hand-in-hand the worth and capacity for work of society. Instead of work, man likes entertainment and so the material well-being vanishes. It is, therefore, our duty to fight against this peril, a duty as well toward mankind as toward our nation."



### CONSERVATION WORTH WHILE

**T**HE United States Government is giving much attention to the problem of conservation—certainly a very wise thing to do. .... The policy is carried out with reference to other national resources. But how is it with human life and energy? True, the expectancy of life has been increased. Much of this has come through the enactment of pure food laws and the control of contagious disease by boards of health.

This life saving and life lengthening process has been largely effective with children. But let us look a little further. After the individual has been saved from disease and death in early childhood, what happens to him later on in life? ....

We offer thousands of dollars for a remedy for hog cholera. We make laws to compel men to destroy the Canada thistle and other noxious weeds. We spray for the San Jose scale and make the nursery man certify that the trees he sells are without disease. We make the groceryman sell pure sugar and flour and butter and lard and call things by their right names. If tobacco is poison, why not label it as other poisons? If it is not a poison, let us quit teaching that it is a poison. If tobacco and cigarettes dwarf the physical development of the child, arrest brain growth and mind development, why not stop the sale of them? Is not human energy, muscular and mental, worth conserving? Are we going to

save the streams and coal beds and fruit trees and the hogs and let the boys go? Are human life and soul energy worth saving? If they are worth saving, are we too cowardly or ignorant to take measures to do it? We talk about pure air and devices for ventilation and yet it is almost impossible to get away from air that is not polluted by tobacco or cigarettes.

If we had upon our statute books laws that permitted men to sell something that poisoned the pigs, calves and chickens, and interfered with their complete development as perfect animals, especially while the prices are so high, would there not be something doing? How about the boys?—*Teacher's Journal.*



### Notes from the Report of the Massachusetts Commission on the Cost of Living

*Industrial Efficiency* would be promoted, one manufacturer suggested, by "putting a stop to the manufacturing and sale of intoxicating liquors which is doing more to undermine the health and decrease the efficiency of the employed as a class than any other cause."

*Fatigue and Alcohol.* The workman seeks to deaden his fatigue by alcohol, tobacco, exciting amusements and excesses of various kinds. The momentary relief which he thereby obtains is purchased at the expense of an increasing susceptibility to fatigue, resulting sooner or later in complete depletion of his vital energies and in the contraction of tuberculosis or other fatal disease.

*The Economy of Prevention.* To spend money lavishly on hospitals, insane asylums, jails and reformatories is well, but better still would be a public desire to go behind the pauper, criminal and diseased in mind and body, seek the causes that made them thus inefficient units, and to apply the prevention, if it is in the public power, as it has been demonstrated, largely to do.



Public opinion is the motive of democratic institutions. When it is sound and wholesome, social evils go down before it, as the snow disappears under the May-day sun. All that is needed for the formation of a sound public opinion is that the great majority of the people should have clear ideas on subjects of public concernment and should freely express them.—*WASHINGTON GLADDEN.*

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"It takes a soul  
To move a body. It takes a high-souled man  
To move the masses even to a cleaner strife.  
It takes the ideal to blow an inch inside  
The dust of the actual."

## For the Sake of the Girls

ATTENTION has recently been directed in these columns to the especial perils of alcoholic beverages to women. Indulgence often begins in subtle form, perhaps in medical use, possibly in the tiny social glass, or often, in the humbler ranks of life, in consequence of the habits of the husband.

Whatever the occasion, the risk can not be too strongly urged, and girls, especially when they leave home for boarding school and college should know definitely what they must avoid and why. A college graduate, herself a college instructor, asked not long ago whether there is alcohol in benedictine, saying that after a walk a short time before with one of the undergraduates, the latter had urged her to "come in and have some benedictine, as it will make you feel fine." Not quite sure of the facts, but quite unwilling to venture influence on uncertainty, the older woman declined and then proceeded to get at the facts which were, of course, that the drink in question has on the average an alcoholic content of 38 per cent.

Even the soda fountain is not free from possible influence with its "frozen pudding", "claret sauce", and sundry other wine or liquor flavored delicacies. Undoubtedly it is true that the majority of women who buy them would not scruple to place them on their own tables, yet there are many to whom this would be a special "treat" and who thus become accustomed to the alcoholic flavor. The quantity which these delicacies contain is

small, yet any habit which will accustom women, and especially girls and young women, to purchasing over the counter alcoholic preparations has in it grave risks which need to be more widely appreciated and guarded against by mothers, teachers, and all who have to do with the training of girls.

## The Vanguard of Civilization

IT is stated on United States official authority that an American brewing firm has been incorporated under the laws of Arizona to establish a brewing business in Mexico. One would think that Mexico, like any other nation, had domestic troubles enough without the complicating addition of a foreign beer industry which the Report states expects to make a net profit of \$12 a barrel on keg beer and a higher profit on the bottled beer. As the present consumption of beer at the point where the brewery is to be established is from 16 to 20 barrels daily, it will be seen that a neat little profit of about \$87,000 annually may be looked for.

There are no philanthropic motives ascribed to the industry thus to be established, but a current bill-board advertisement in grandiloquent phrase informs the passers-by that a certain beer is "the vanguard of civilization".

Judged by that claim, can it be that the new brewery venture really expects by increasing the use of beer to contribute to Mexico those qualities which Guizot enumerates as the characteristics of civilization? Beer as the "vanguard of civilization" to aid Mexico in "advance in arts and learning" to "promote order", to "elevate and social and individual life", to "develop human faculties", to "increase the production of the means of strength and happiness"! *C'est à rire*—were it not too serious a matter.

Mexico will need to redouble her efforts for the temperance training of youth, while every patriotic American should feel a shame that American capital and American plans are to invade with American beer the house of our sister of the South. Is this the "consideration", action "in accordance with justice, right, and honor" that Hon. Curtis Guild, Special Ambassador from the United States to the recent Mexican Centennial celebration outlined as the ideal of the new day of international relations, and especially the ideal of the United States?

WHILE the progress of Mexico is thus threatened by American beer, Germany is recognizing that beer, so far from being the "vanguard of civilization" is its handicap.

At a meeting of the Diet at Karlsruhe, not long ago, according to the *International Monatsschrift*, a social democratic representative found fault because in the stone quarry at Dossenheim the workmen had been deprived of beer, although with the consent of their committee. He did not understand how any one could expect men to endure the heat of the sun and do their work with only tea and coffee to drink.

Thereupon, the Minister of the Interior replied that the widespread belief in beer as a source of nourishment and strength is an error fatal to the welfare of people in all circumstances.

Beer, he told them, is a luxury, and workmen should look upon it as such and act accordingly. That people engaged in the most difficult labor could perform it best when abstaining from alcohol entirely, he said, was a fact so well known that he did not need to enter into it. Furthermore, he regarded it his duty to take this public stand upon a matter of such importance as the alcohol question.

ANOTHER significant indication of an awakening on the part of Germany to the perils of alcoholism is an appropriation of \$500 by the Minister of the Interior to the Good Templars. There had previously been a contribution of \$2500 to the work of the Society against the Abuse of Alcoholic Drinks but this last appropriation is to a society that stands strongly for abstinence.

### Juvenile Crime

FROM many judicial directions comes a note of alarm at the increase of juvenile crime. Judge Ronald, of one of the Ohio county superior courts, recently declared that fully ninety-six per cent. of the prisoners who appeared there for sentence were not more than twenty-three years old, and that a majority of their crimes were committed while under the influence of liquor.

Dr. Lambert's study of 275 alcoholic cases in Bellevue Hospital, showed that 68 per cent. began the use of drink before twenty-one years of age, and 53 per cent. began to drink for the sake of sociability. Misery was given as a cause in but 12 per cent. of the cases.

Dr. Albert Wilson in a paper read before the British Society of Inebriety asserts that if he were to report 700 cases of boy criminality of which he has made special studies, there would be found alcoholic parentage in two-thirds, mal-nutrition in most, bad environment in all.

Probably everyone who has read "Twice-born Men" by Harold Begbie, has been impressed by the fact that in every instance but one of the lives there portrayed, drink was either a cause or a constant accompaniment of the degraded condition. In practically every case also, the habit began early in boyhood.

Apparently we shall fail to get at the roots of the matter if we ascribe the drink habit and its consequent crime chiefly to environmental causes. The average youth under twenty-one has not become so burdened with the responsibilities and deprivations of life that he seeks relief in drink, and such causes as mal-nutrition and degraded circumstances in a great majority of cases are traceable to the use of drink. Dr. Wilson calls attention in this connection to the Jews in the East End of London. "It is remarkable", he says, "that while many streets are dangerous to promenade at night, as soon as you go into the Jewish quarter, you find order, cleanliness, thrift and decency. Everyone knows that it is a question of alcohol."

### Italy Plans Restrictive Measures Against Alcohol

LOWING accounts of the sobriety in Italy have been circulated in expensive pamphlets by American wine-growers in an effort to promote wine-drinking. Italy, however, apparently has troubles of its own. According to a late United States Consular Report (September 15, 1910) Consul-General James A. Smith writes from Genoa that the Italian Ministry of the Interior has recently directed a circular to the prefects of the several Provinces, instructing them to report on the spread of alcoholism in their respective districts. In order to enable the Government to adopt restrictive measures it requests the fullest statistical information as to the comparative quantity of alcoholic liquors, wine, etc., sold in the various sections of the kingdom during the last ten years and the apparent results which have attended such sale.

### COMRADESHIP

"The sky looms ominous and dark,  
The times have grown accurst,  
Because men's souls with greed are rife;  
And yet, the truth that makes men good  
Dies not, born of Immortal youth,  
It hath a ceaseless life."

"It need not be a lonely fight,  
This warfare for the right,  
For he who in the open stands,  
May feel, from out the fears  
That were and are and yet to come,  
The touch of comrade hands."

## Moral or Scientific Temperance Instruction

BY THE EDITOR

**T**HE supreme value of the early years of a child's life for training of any kind is recognized alike by parent and teacher. The character of that training often determines the trend of the current of after life.

A question as old as the public school temperance instruction often rises as to what shall be the nature of the teaching in the early school years. Shall it be presented under the head of morals, or shall it deal with the simple hygienic facts; that is, shall it be what is popularity called "scientific instruction"?

Broadly speaking, it may be said that both methods are necessary in effective teaching. But the conception of personal sobriety as a moral question to be treated as such in the case of children fails to take into account the physiological facts that underly it.

As a matter of fact, if instruction is to be in the least definite, it is practically impossible to teach the child morally to abstain without entering the field of the physiological.

## A QUESTION OF HEALTH

No one thinks of trying to teach a child to avoid tuberculosis by moral instruction. We teach him certain simple, necessary facts that he ought to know, and on them base the appeal to hygienic living. Similarly, temperance instruction is intended to teach him how to avoid alcoholism with all that it entails, and there is no more reason for confining the teaching to the moral side of the subject than there would be in the case of tuberculosis.

## A PSYCHOLOGICAL MOMENT

On the other hand, one of the most marked characteristics of the child up to ten or twelve years of age is his desire to know facts. "Why" and "what" are the questions most frequently, perhaps, on his lips. In a recent book on "Aspects of Child Life and Education" by Dr. G. Stanley Hall, it is said that in a study of children's minds during this first decade of life, of four hundred and sixty-five questions asked by the children, over one-half were on topics relating to nature and the working of natural forces. Nearly seventy-five per cent. were an effort to find out the "why" of things.

This being true, it is good pedagogy, as well as good sense to utilize this age characteristic by the simple teaching of the facts adapted to that age rather than to depend solely on the moral appeal which does not satisfy this desire for information.

Two practical reasons are perhaps paramount for teaching children of this age facts about alcoholic drinks and tobacco.

## COUNTER INSTRUCTION IN FACTS

The first is that during those years in the majority of cases he is receiving very definite instruction in favor of these beverages. For instance, he passes on his way to school a dozen or more billboards, most of them specifically stating the benefit that certain beers, ales, or whiskies will confer on the drinker. That is physiological teaching. It is not to be met successfully by purely moral teaching.

## THE TREND OF EXAMPLE

Secondly, there are thousands of homes where the child learns to drink, even before a dozen years of age, by example or by precept. Many a mother in immigrant or other homes gives her children beer in the mistaken idea that it is good for them. Here is a physiological error being woven into the habit of the child. It must have the counteracting influence of physiological truth.

## FINDING THE POINT OF CONTACT

This does not mean that technical, abstruse ideas are to be indiscriminately turned loose upon the child at an early age. There must be common sense exercised in the selection and adaptation of facts as in any other subject. A study of the subject matter and of children's interests very soon discovers a point of contact, and this done, there is no reason why the child in the first five or six school grades should not learn the essential reasons for letting alcohol and tobacco alone.

This does not, and should not, of course, bar out the moral appeal, but it gives it strength, reasonableness, and interest. Both are needed. One only needs try the two methods, however, to discover how the teaching of facts suitably chosen and presented, holds interest which is so essential an element of successful instruction, and how quickly attention and interest flag under purely moral teaching.

Whether we consider the question from the standpoint of the modern conception of the drink habit, or of the psychological development and the interests of the child, or of the influences which surround him, or of practical experience, there is every advantage on the side of emphasizing the scientific facts about alcohol and tobacco even in the early school years.

# Class-Room Helps

Conducted by Edith M. Wills

## Methods of Anti-Cigaret Work in the Sixth Grade\*

**I**SUPPOSE, Miss Loren, you find the same difficulty with cigaret smoking that other teachers have", said the Observer. "What do you do about it?"

"I don't think we have been having so much trouble here as in some schools," she replied.

### THE INFLUENCE OF EXAMPLE

"We have had an organization of the anti-cigaret league for some time, and in addition to this and to the instruction in the grades, the boys have had the splendid example of the head master and the men of his staff, all of whom are non-smokers and throw their influence against the habit which really seems to be dying out in our school.. During the year the number of boys who smoked at all was unusually small, only one boy, I think, being seriously affected by this harmful vice, and he entered late in the year."

In reply to questions as to ways and means of work along these lines, the Observer gleaned helpful suggestions which she has endeavored to transcribe.

The fact that this year cigaret-using was, fortunately, reduced to a minimum did not make her negligent in teaching the nature and effects of alcohol and nicotine. It was her duty and earnest purpose to teach the beauty, the value of health and to thoroughly instil hygienic habits which would ensure it. On the other hand, it was necessary to warn the children against the use of narcotics to which they would be tempted and which might easily undo all the good of the positive instruction. Accordingly, the poisonous nature of nicotine and of alcohol, and the effects of each on the body and its efficiency were taught in an impartial but interesting way as any other desirable scientific facts would be taught.

### RATIONAL TREATMENT OF NICOTINE AS A POISON

But here she applied the knowledge she had gained from the confidential talks with the children and, as she carefully explained, she felt this point was of the greatest importance. These were not grown people able to understand that in the physical world as elsewhere,

things are not always what they seem, but children lacking in judgment, experience and self-control.

For example, she asked them to mention the poisons they knew of and asked if anyone had heard of accidental poisonings, and if so, what was done? Probably two or three of the children could tell of some case and how antidotes had to be administered in hot haste.

Then she explained the difference there is in poisons. Those of which they spoke, like carbolic acid, for instance, were quick poisons. Others like lead, poisoning from very long use of paint or water from lead pipes, are very slow indeed. Sometimes, e. g., painters go on painting for years seemingly not harmed a bit, and then suddenly they fall dreadfully ill and often die. To look at these men before they fell sick, no one, perhaps hardly a doctor even, could tell that they were not as well as anyone, yet all this time the poison was piling up little by little and undermining health and strength till all at once they sickened and died.

Perhaps, she would continue, you children think that because alcohol or tobacco is not labeled with the skull and crossbones and "Poison" in big letters, or that because people seldom get enough of either of them at one time so that it is necessary to have an immediate antidote, they are not poisons. [As a matter of fact, bottles of alcoholic liquors are so labeled in Russia.]

Have not some of you heard of children being poisoned to death sometimes by eating a little tobacco or sucking an old pipe? And doesn't everybody know how sick people are the first few times they smoke? (Other examples showing the virulence of nicotine are easily available.) These show clearly that nicotine in any but the tiniest amounts is very poisonous. It may be harmful to the health even when taken in the very small amounts one gets by smoking, although you find that hard to believe because it may act slowly like lead poison, and one may not notice for years that he is being harmed.

### THE METHOD OF TEACHING THE FACTS

Then using the guarded statements of the text books instead of careless generalizations,

\*Prepared from notes obtained from a successful Boston teacher whose school was visited.

she carefully taught the ways in which tobacco is harmful to the body, and used interesting illustrations freely to make the boys clearly understand just why it is unwise to smoke.

She explained very carefully that neither the book nor the teacher intended to teach that all of the evil effects of cigaret-using were likely to come to any one boy. She admitted freely that possibly a boy might be a smoker and not seem to be hurt at all and that some men smoke a long time and do not suffer much so far as can be seen from the outside. What they were being taught might seem untrue because observation seemed to contradict it.

When they saw a boy or a man smoker apparently unharmed they must not think that such cases proved untrue what they had been taught, namely, that wise doctors say that few if any boys or men can use tobacco habitually without being injured sooner or later. These smokers, like the men poisoned with lead, may be seriously poisoned.

And after all, even if they might know quite a number who seemed to have received no harm, does not everyone know of other men who do freely admit that their smoking hurts them, and had they not heard of some who had undoubtedly lost their lives? Is it not true that of the boys they had known who smoked, many were behind their classes and not so strong and active as they ought to be? Isn't it unwise to form a habit that certainly hurts a great many and probably in time does everyone some harm?

In the cases of smoking as in those of other unhygienic habits, she dealt tactfully and sympathetically with individuals, the following being a case in point.

#### SAVING THE CIGARET Boy

One day a boy was transferred to her school late in the year. He was evidently a great smoker for the odor of cigarettes was sickening. He was won at first by the kindness of the children and the teacher and afterward, in the confidential talks she had with him, he admitted that he had smoked for some time and all the cigarettes he could lay his hands on. He was behind in his work and admitted that in the other schools he had attended he had been a bad boy.

She said to him, "I always feel sure that boys like you will obey me nicely."

"I don't understand why," muttered the boy, somewhat taken aback.

"Because," said this tactful teacher, "of course you will be willing to mind your teacher when you mind this little bit of tobacco rolled up in paper. Think how many times you have been ruled by just a little piece.

You see a cigaret butt in the street and it says to you 'Come and pick me up and smoke me, and you mind sometimes several times a day.' You know it harms you, too."

The boy hung his head and pondered over this new idea. He became obedient. From time to time she talked kindly with him in private, asking him how many times he had smoked, and he answered her truthfully. Then she would coax, "Now, tomorrow, see if you can't pass by the first butt that asks you to pick it up. Say to yourself, 'I won't smoke this one. I will wait till I see another.' And when you see the next, see if you can't pass that one. Perhaps you can manage to go all day."

She asked him how the struggle went and gave him helpful suggestions. Before the term closed she had reduced his number to two or one daily. He failed to be promoted, so if he has not lost all the ground gained, and more, too, during vacation, she hopes eventually to help him get free from the habit.

The idea of his "*obeying* that little piece of a cigaret the size of a finger," evidently made a great impression on his mind and helped considerably with discipline as well.



#### JAPANESE LULLABY.

By Eugene Field.

*Sleep, little pigeon, and fold your wings,  
Little blue pigeon with velvet eyes;  
Sleep to the singing of mother bird swinging—  
Swinging the nest where the little one lies.*

*Away out yonder I see a star—  
Silvery star with a twinkling song;  
To the soft dew falling I hear it calling—  
Calling and tinkling the night along.*

*In through the window a moonbeam comes—  
Little gold moonbeam with misty wings;  
All silently creeping, it asks: "Is he sleeping—  
Sleeping and dreaming while mother sings?"*

*Up from the sea there floats the sob  
Of the waves that are breaking upon the shore,  
As though they were groaning in anguish and  
moaning—  
Bemoaning the ship that shall come no more.*

*But sleep, little pigeon, and fold your wings—  
Little blue pigeon with mournful eyes;  
Am I not singing? See, I am swinging—  
Swinging the nest where my darling lies.* —Selected.

NOTE. The poem above, by Field may be used as the starting point for a primary lesson on Sleep and Rest. Points that may be discussed are:

(1) Need of rest; (2) preparation for rest (complete or partial bath, care of clothing, darkening the room, arranging for good ventilation, etc.); (3) how to rest (nearly straight in bed with low pillows or none at all); (4) care of the bedroom after rest.



Pick out 12 drinking men you knew 12 years ago. Then see where they stand in the game today. That's all for the highball.—*Boston Herald.*

## Abstinence and Long Life

BY CORA FRANCES STODDARD

**"Those who don't drink, don't die so fast".**  
**"Abstainers are less liable to accidents and more quickly recover from injuries than persons who are not abstainers."**

PLACE these quotations from life insurance officers on the blackboard, also a reproduction of the drawing given in the second column.

Discuss with the class life insurance and health insurance. What is their object, their method, their advantages? Why do life insurance companies require that persons applying for insurance have good health?

### A YOUNG ENGLISHMAN'S EXPERIMENT

Tell the story of the young Quaker in England, Robert Warner, who wished, in 1840, to insure his life. He applied to a London office for a policy. When it was learned that he was an abstainer, he was told that he must pay extra for his insurance because the managers of the company then (70 years ago) believed that the use of alcohol was healthful, and that a man who was an abstainer would not live so long as a user of alcohol.

The young man did not think so, nor did he want to pay extra because he was an abstainer. So he took steps to form a new life insurance company which should insure abstainers only. It had a very long name—United Kingdom Temperance and General Provident Institution. For ten years it insured only persons who were abstainers. Then it opened a new section for those who were not abstainers, but only very moderate drinkers were permitted to take out policies.

After several years had passed, it was found that the young man had been right and the old insurance company wrong, that, on the average, abstainers lived considerably longer than those who drank only moderately. Other British companies later adopted the plan of keeping abstainers and moderate drinkers in separate sections and giving the abstainers more favorable terms.

### THE GREATER NUMBER OF DEATHS AMONG THE DRINKERS

Turn to the diagram on the blackboard which represents the experience of many years in two of these companies. Call attention to the lower death-rate in each instance in the case of the abstainers.

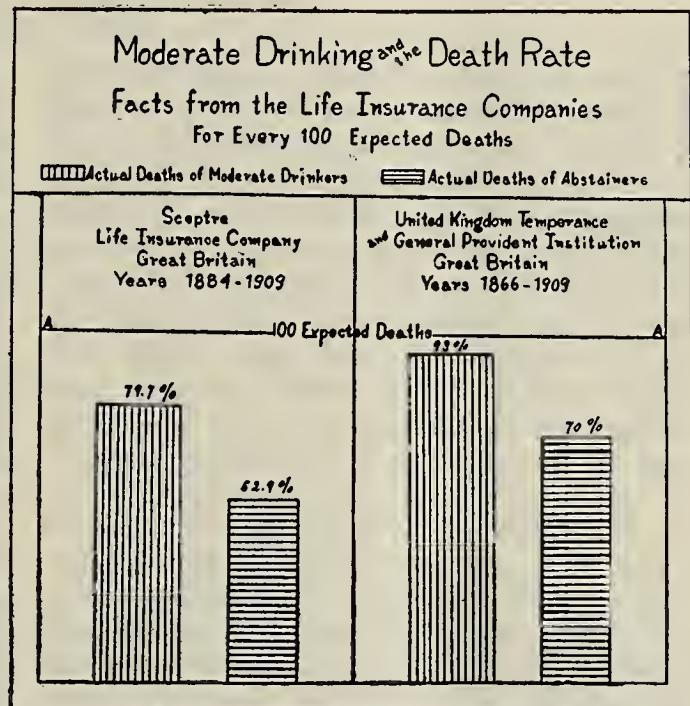
Guard against leaving the impression that every abstainer will live longer than every moderate drinker. This diagram represents the *average* of many thousands of lives, and it is only by getting records of such large numbers that we can judge fairly of what is likely to be true, although there may be individual

exceptions. Especially emphasize the fact that this is a difference between abstainers and so-called moderate drinkers.

### WHY DRINKERS ARE LIABLE TO BE WORSE INSURANCE RISKS

**Sickness.** Place on the blackboard the following table or the diagram representing it (Journal, Feb., 1910), which shows the comparative amount of sickness among abstainers and drinkers in Austrian benefit societies.

	Duration of sickness	Deaths among sick
Abstainers	6.4 weeks	3.5 p. c.
Non-abstainers	10.9 weeks	6.5 p. c.



How many more weeks on an average did the drinkers lose by sickness than the abstainers? Incidentally the greater financial loss may be worked out in loss of wages and expense of sickness.

Discuss the reasons why the alcohol-user is more liable to be sick—impairment of nutrition, lowered resistance to germ-caused diseases, impairment of the heart or nerve control. Why do surgeons dread surgical cases and drinkers in Australian benefit societies.

**Accidents.** Show how the use of alcohol increases liability to accidents by lessening the ability quickly to see and to avoid danger. Accident insurance experience shows, too, that abstainers recover from injuries more quickly than drinkers.

### WHAT ABSTINENCE SAVES THE INSURED ABSTAINER

American insurance companies as a rule do not give special rates to abstainers. The advantage he should have, however, is shown by the experience of the British companies, several of which allow a reduction of five per cent. to the abstainer. If a man is paying \$100 a year for insurance, how much would he save by abstinence? How much in twenty or forty years?

Note that the company may call at any time upon policy-holders who wish this reduction to promise to continue to be abstainers. Any one who is unable or unwilling to make this promise has to pay the higher rate.

Leave on the blackboard the following question and replies given by various American insurance companies to a New York paper some years ago.

### QUESTION

"As a rule, other things being equal, do you consider the habitual user of intoxicating beverages as good an insurance risk as the total abstainer? If not, why not?"

### ANSWERS

Mutual Life: "No."

Aetna Life: "No. Drink diseases the system."

Berkshire Life: "No. Drink destructive to health."

Michigan Mutual: "No. Drink reduces expectation of life."

Provident Savings Life: "No. Drink cuts short life expectation."

## Physiology as a Science Study in the High School\*

BY GRACE F. ELLIS

Instructor in Biology, Grand Rapids (Mich.),  
Central High School

I DO not feel inclined to modify the statement I have made before that physiology is the most important science in the curriculum. To it every other science, properly arranged, should lead; to it, also, the pupil should bring not only the facts of botany, zoology, chemistry and physics, but the feeling that here he is to learn how to make the most of himself—the best use of this wonderful machine which holds us each, and through which, and by means of which, we make the world better by our having lived.

### PHYSIOLOGY AS A PART OF ZOOLOGY

The optimum and logical preparation for [high school] physiology would be that botany, zoology, chemistry and physics should precede it. This might be accomplished by placing it in the last half of the twelfth year. Parenthetically, let me say that we expect to offer such a course after this year, and that physiology is also taught in connection with zoology during a year's course in the latter subject. It is a part of the zoology, not a subject taken up at the end of work on vertebrates, but introduced by the study of foods, when we reached a point on invertebrate work where that could profitably be handled; by a farther study of glands and digestion, when glands and their functions became of interest in the zoology and by a study of motor organs (amoeboid cells, ciliated cells and muscles), when in worms and mollusks muscular activity was noticeable.

Study of circulatory systems is made when any animal large enough to have a distinct system for the circulation of blood, is taken up in the laboratory. Respiration and excretion follow naturally.

The study of the nervous system will be taken up in connection with work on vertebrates, beginning with functions of nerves and ganglia when the class finishes the work on arthropoda. The skeleton in this course will be the last thing to be considered, instead of, as often, the first thing, and in connection with it will be some work on muscles.

This outline is not primarily of physiology, but only of that treatment of the subject which it seems to me ought to be included in any course in zoology, unless the zoology has been preceded by physiology, or is to be followed by it.

### PHYSIOLOGY AS AN INDEPENDENT SUBJECT

Where physiology is to be studied by itself, the first thing to be considered in outlining the work is where it is to come in the high school course. I have indicated what I consider its proper place. Others will undoubtedly think differently, but, at any rate, all will agree that if it is not preceded by some chemistry and physics, it must be illustrated by simple experiments in order to make it comprehensible by the student.

The teacher of physiology may talk of oxidation and digestion, of proteids in the food, calcium phosphate in the bones, of carbon dioxide, and nitrogen in the air, but unless he and his pupils understand the elements of

\*Prepared for the Conference of the Biological Section of the Michigan Schoolmasters' Club, Ann Arbor, Mich.

chemistry, unless they see and handle the things they talk about, they might as well talk of Greek verbs. With the microscope he may show them cells, but he cannot go further—unless he is a chemist—and show them that the whole complex animal body has been built up of three invisible gases and carbon.

In this I find the starting point for my work; in the laboratory, without any text-book and only a sheet of directions as to processes, and questions as to results, the learner finds out for himself something about the substances which enter into the composition of his own body.

This introductory work is followed by a set of very simple experiments on acids and alkalies, and the whole by a sharp quiz to "fix" the results. Then the study of food can be introduced with experiments to show the reactions of various tests for starches, sugars, proteid, fats and minerals. A few foods may be tested to show how many and what food principles they contain, these studies to be followed by a series of experiments on digestion in which test tubes, containing foods and digestive fluids, are suspended in a water bath with a chemical thermometer and kept at a temperature of 99 degrees F.

While the work on foods is going on in the laboratory in the class-room we discuss work and energy, uses of foods, etc., and oxidation and combustion are illustrated.

The alimentary canal and digestion are then studied in detail. The former illustrated by slides to show structure of stomach, intestines, glands, etc., and the latter by experiments on fat-digestion (emulsions and soaps) and absorption. A bit of sausage skin tied over the flaring end of a test tube whose closed end is chipped off will give good results as to absorption of digested and undigested proteids.

[In this connection show (a) that since alcoholic liquors contain no appreciable food values, the nutrient principles of the fruits and grains having been largely destroyed during the chemical process of fermentation, and the alcohol itself cannot furnish nourishment without injury to the body, they cannot be considered as foods; (b) extensive experiments have shown that alcoholic liquors irritate and injure the stomach, slow peristalsis and weaken the power of the gastric juices. Similarly the study of each of the other systems should include the functional and organic effects of alcohol and nicotine. *Ed.*]

We follow digestion with circulation. When it is possible we have in the laboratory three jars of blood, the whipped, coagulated, and fibrin from the first, with a microscopic study of frog's and human blood. This gives

us an impetus; aided by study of circulation in the frog's foot—or, better still, in the tadpole's tail or the caudal fin of a small fish, the interest grows until it is positive excitement when we study the beating heart of a frog, and dissect the calf's heart from the market.

Let me say in passing that careful counting and timing with a watch will show the comparative length of work and rest periods for the heart.

Difference in arterial and venous currents, pulse, arterial spurting and slowing of blood flow in capillaries are all illustrated in a simple piece of apparatus consisting of glass Y-tubes and rubber tubing.

At the end of this work, along with quiz and laboratory notes, I require each pupil to put on the blackboard or on paper his notion of the structure of the heart in a diagram that shall show chambers, valves, blood vessels, etc.

Respiration and excretion are next in order. So essential does the study of lung capacity seem to me that I have devised an apparatus for its measurement, a figure of which was published in *School Science*, Vo. 1, No. 7, p. 372. Accompanying it is an outline of the questions each pupil answers in regard to it. When the work is handed in, a personal talk with each pupil emphasizing the points made is very helpful. Students take pride in a good lung record and often take pains to improve it, taking occasional measurements through the year.

Dissection of kidney and slides of sections through the skin sufficiently illustrate the functions of excretion.

The students do not open their text-books to study the nervous system until they have made a series of simple experiments to get an idea of the use of nerves and ganglia. In this work, especially, should care be taken that the learner distinguishes in the experiments the results he observes from the inferences drawn from these results.

#### THE VALUE OF PHYSIOLOGY AS A CULTURAL STUDY

If we should study the growth of civilization we should find it had been brought about by the mental operations of independent observation, experiment, classification, deduction and generalization. These lie at the bottom of all scientific study, all scientific knowledge. The most profitable science teaching is that which teaches a pupil proper observation and experiment.

When physiology is challenged at the threshold of the high school—what do you bring that we should admit you here?—it

must be able to answer and to prove with its kindred sciences that it brings the power of independent thought which is the greatest object to be desired among the masses of the people in present or future time.

Speaking of the moral factor in education at the N. E. A. last summer, President Faunce, of Brown University, said "Over every true school might well be inscribed the sentence which we find in Genesis: 'Let us make man.' Over the entrance to its scientific laboratories may be written: 'Let us help man to make the most of himself.' He who teaches at all follows in the wake of the Creator. He who teaches biology knows that the handful of dust which composes man worked its toilsome way from lowest protozoan to highest mammal, from mammal to man, and through an epitome of race history he must develop afresh the powers of each student.

"With earth's first clay they did the last man knead,

And then of the last harvest sowed the seed,

And the first morning of Creation wrote  
What the last dawn of destiny shall read."

Physiology, hygiene and sanitation should, in the mind of the teacher, be the interpretation of the simple physiology of our course of study; for a knowledge of physiology is required in life, far beyond the ground covered by a course of lectures or an elementary textbook.

It is desirable that there be a widespread understanding of the nature of contagious diseases in order that the action of medical boards and boards of health may have a meaning in the minds of the public at large. The creation of such an understanding seems to me an important duty of the public schools.

Some of the most important questions we have to face in our country today arise from ignorance or reckless disregard of the fundamental facts of human existence. The unsanitary condition of the slums, the restriction of disease, the essential facts of contagion and disinfection, the conception of bacteria, infection, and prophylactic measures, the children with neglected eyes and teeth and bodies, social evils and wrongs from customs contrary to physiological facts—all these must be remedied by the train of young men and women in our laboratories, who shall save society. We can prevent it from becoming the prey of the evil only by procuring the wise and good who shall overcome the evil.

That righteousness tendeth to life, and the wages of sin is death, is not only morality, but physiology. Correct action is dependent upon correct thinking. The more familiar a

man is with the laws of nature, the more he will obey them and work in harmony with them, to the benefit of himself and his fellows.

Huxley said long ago: "There is a very convenient and handy animal which everybody has at hand, and that is himself. \* \* \* Hence the general truths of anatomy and physiology can be taught to young people in a very real fashion by dealing with the broad facts of human structure. \* \* \* So that, in my judgment, the best form of biology for teaching to very young people is elementary human physiology."—*School Science*.



## The Harmfulness of the Cigaret

BY FREDERICK S. DENNIS, M. D.

Prof. of Clinical Surgery, Cornell University Medical School.

**T**HE tendency to beer drinking is greatly strengthened by cigaret smoking, because this habit becomes almost constant and causes a dryness of the throat and fauces and hence irritates the throat. Immoderate cigaret smoking destroys to a certain extent the conductivity of the motor nerves, and likewise affects the motor tracts of the cord. The cigaret smoker forms a habit which unfits him for performing mechanical work in which great delicacy of manipulation is necessary. This form of smoking is universally prohibited among athletes during the period of training. By inhalation the nicotine becomes volatile, engenders a gas which acts as a poison and prevents the capillary system from performing its normal function, which in time affects growth. The action on the heart is deleterious, and gives rise to the smoker's heart which is incapable of strain in any great physical emergency. It is not only the heart, but all others organs which sooner or later become affected so that digestive and respiratory functions are impaired.—*New York Medical Journal*, May 28, 1910.



## Honest Anyhow

Mr. Hans:—"Doctor, I ain't got much money. Vill you dake my bill out in trade?"

Dr. Gans:—"Why, I might. What's your business?"

Mr. Hans:—"I'm der leader off de liddle Cherman band. Ve'll blay in front off your house effry efening."

## THE BOOK TABLE

**THE BIBLE AND WINE.** By Farrar Fenton, M. R. A. S., M. C. A. A. 125 pp. \$75.

THIS new discussion of an old subject is not to be dealt with critically save by experts qualified to judge of the accuracy of translation. To the lay reader, however, this new translation of all the biblical texts referring to wine or strong drink or so translated in the accepted versions is both interesting and illuminating.

Briefly stated, the writer's contention is, that owing to a "defective knowledge of Hebrew, the old Greek and Latin translators and the European ones of the period of the Reformation translated indiscriminately as 'wine' or 'strong drink,'" eight or nine different words some of which referred to vegetable products not naturally intoxicating or to non-intoxicating products of the vine, while a more accurate knowledge of Hebrew customs shows that in many instances, there must have been mistranslation. On the other hand, Mr. Fenton holds, that where words meaning fermented drinks are used, the context usually indicates unmistakable condemnation of the habit.

Of most interest, perhaps, is the discussion of the three New Testament passages most often quoted in support of drinking alcoholic wine, viz., the Miracle at Cana, the Lord's Supper and Paul's advice to Timothy.

In the first instance, the author maintains that among the old Orientals and the Romans, the "best wine" was made by boiling down grape-juice until it was thick; in that state, it was stored away for future use to be eaten like butter, or mixed and stirred up in water to make a drink and this was the "best wine". Pliny is quoted as recording that grape juice was boiled down one-third to secure its finest flavor. This, of course, would be an un-intoxicating drink.

As to the "wine" used at the institution of the Lord's supper, the author says that no word is used that would necessarily indicate fermented wine, the term being "the fruit of the vine", and, furthermore, that "it would have been very remarkable if a fermented wine had been used since the Israelites were forbidden to use, eat, or drink any fermented

article of food, not only on the day of the Passover, but for seven days before it", and that its use on that occasion "would in the minds of His apostles, have been such a violation of the law that Peter, at least, 'into whose mouth nothing common or defiled had ever passed' would have refused the cup."

Paul's oft-quoted advice to Timothy to "take a little wine" it is claimed contains a serious error in translation, and should have read according to the Greek idiom, "No longer drink water alone, but use with a little wine for the stomach's sake because of your frequent infirmities." "Stomach wine", or 'wine for the stomach', old writers on Greek medicine say was grape-juice prepared as a thick fermented syrup for use as a medicament for dyspepsia and weak persons, and there can be no doubt but that was what Paul told his friend to 'use' a little of, mixed with water, to which it was evident that Timothy, like other pious Jews of that period has restricted himself so as to avoid breaking the Levitical command against priests' drinking 'wine or strong drink' during their ministry".

Not all the passages or comments of the book seem entirely free from the forcing of a point, yet it is a suggestive commentary on a phase of the alcohol question which is still the source of much perplexity to many persons.

**ALCOHOL A DANGEROUS AND UNNECESSARY MEDICINE.** By Mrs. Martha M. Allen, World and National Supt. of the Dept. of Medical Temperance of the W. C. T. U. 410 pp. \$1.25.

THIS is a second and revised edition of perhaps the only existing compilation of facts relating to non-alcoholic medication. It includes a history of the scientific study of the facts about alcohol, and of progress in its disuse as a medicine, with results of non-alcoholic treatment, and tried substitutes for alcohol. The subject of "patent medicines" is fully treated. There is an interesting collection of statements recently gathered by the author from hospitals, medical schools, and physicians in private practice showing that the alcoholic treatment has been greatly superseded in late years by other safer methods.

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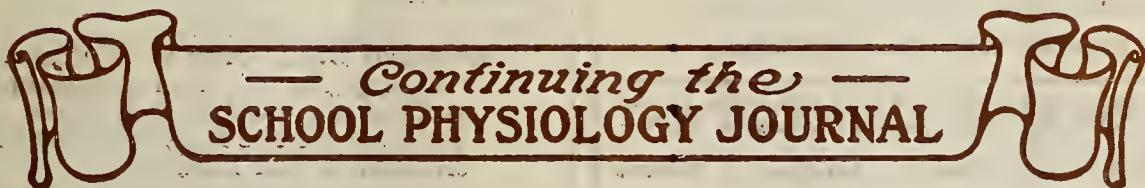
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Scientific Temperance Journal, 23 Trull St., Boston.

# SCIENTIFIC TEMPERANCE JOURNAL



What Boys and Girls Can do for Their Country\*

By JULIA WARD HOWE

May 27, 1819

October 17, 1910

**J**WANT them to build up character in themselves and in the community, to give to the country just so many men and women who will be incapable of meanness or dishonesty, who will look upon life as a sacred trust, given to them for honorable service to their fellow men and women. I would have them feel that, whether rich or poor, they are bound to be of use in their day and generation, and to be mindful of the Scripture saying that "no man liveth unto himself." We all have our part to do in keeping up the character and credit of our country. For her sake we should study to become good and useful citizens.—*Pilgrim Teacher.*

\* Written soon after her ninetieth birthday in reply to the question, "What can children do for their country?"

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NOVEMBER, 1910

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# Scientific Temperance Journal

Vol. XX

BOSTON NOVEMBER, 1910

No. 3

## A Thanksgiving

By Bliss Carman

It is the mellow season  
When gold enchantment lies  
On stream and road and woodland,  
To gladden soul's surmise.  
The little old gray homesteads  
Are quiet as can be,  
Among their stone-fenced orchards  
And meadows by the sea.

Here lived the men who gave us  
The purpose that holds fast,  
The dream that nerves endeavor,  
The glory that shall last.  
Here strong as pines in winter  
And free as ripening corn,  
Our faith in fair ideals—  
Our father's faith—was born.

Here shone through simple living,  
With pride in word and deed,  
And consciences of granite,  
The old New England breed.  
With souls assayed by hardship,  
Illumined, self-possessed,  
Strongly they lived, and left us  
Their passion for the best.

On trails that cut the sunset,  
Above the last divide,  
The vision has not vanished,  
The whisper has not died.  
From Shasta to Katahdin,  
Blue Hill to Smoky Ridge,  
Still stand the just convictions  
That stood at Concord Bridge.

Beneath our gilded revel,  
Behind our ardent boast,  
Above our young impatience  
To value least and most,  
Sure as the swinging compass  
To serve at touch of need,  
Square to the world's four corners,  
Abides their fearless creed.

Thank we the Blood that bred us,  
Clear fibre and clean strain—  
The Truth which straightly sighted  
Lets no one swerve again.  
And may almighty Goodness  
Give us the will to be  
As sweet as upland pastures  
And strong as wind at sea.

—*Collier's Weekly.*



## The Teacher's Connection With The Alcohol Question\*

By CITY SCHOOL INSPECTOR WEISS OF NURNBERG

I HEARTILY concur in the opinion that it is urgently desirable to bring children up as free from alcohol as possible and that we should persistently strive to do so. As an impressive warning teachers should frequently call to mind those words of a well-known physiologist and psychologist: Children under fifteen should on no occasion receive alcohol in any form. It is a crime,—I can not call it any thing less—to let children have a definite quantity of alcohol daily.

### THE FREQUENCY OF YOUTHFUL INDULGENCE

It is possible, of course, to raise the question whether the use of alcohol by children is so general as to render it necessary to include definite opposition to it in the educational program. Unfortunately, it must be said that numerous inquiries and investigations, small and extended, private and official in Germany and other countries answer the question in the affirmative and certify to the

fact that the number of children who daily drink alcoholic liquor is considerable; that here and there it is used by girls more than by boys; and that the number of children in various localities is relatively very large. Cases like those reported by Stumpf from Munich, in 1899, in which children a year old, showed symptoms of premature use of beer, are fortunately not frequent.

### THE HANDICAP TO EFFICIENCY

It is not necessary to present figures from the numerous findings; more interesting is the fact, likewise abundantly established, that an indubitable connection exists between the use of alcohol and inefficiency and, therefore, that the increasing use of alcohol brings with it a proportional impairment of the child.

If, in addition to this, we accept the fact established by physicians and other men of science that the use of drinks containing alcohol even in small amounts may have an injurious influence upon the body, one will no longer deny the close connection between combating intemperance and training the young.

\*From an address given at the 26th Annual Meeting of the Deutcher Verein gegen den Missbrauch geistiger Getränke, Nurnberg, Germany, September 13-16, 1909.

The scientific findings are to be regarded the more seriously because the detrimental effects are not limited to the individual, but are transmitted to offspring as well.

The many individual experiences which teachers meet with every year in their classes, which are particularly striking and often shocking in the charity schools and institutions, all affirm what has been previously said and lead us to this conclusion: *It is a pedagogical and national task to take up temperance work seriously and impressively in the education of the young.*

In order to promote the physical development of the young we build spacious school houses with provisions for light and air and all hygienic requirements, fit up large playgrounds, allow the children to have gymnastics, sports, baths, excursions; install dental clinics; we are not insensible to the call for better care of the health, but it is also our duty to oppose everything that may weaken or kill the finer sensibilities, the finer religious and ethical impulses.

#### THE SCHOOL A PROPER PLACE FOR TEMPERANCE INSTRUCTION

The only question that arises is whether it is the place of the school itself or of the teachers in their official capacity to include the support and promotion of the temperance movement in their professional work. This question I would also answer most positively in the affirmative, calling also to mind the fact that the Prussian Minister of Education in 1902, in answer to a petition of the German Women's Union published an order that not a single public school should avoid taking a positive part in the struggle against the disastrous evil of alcoholism.

The causes of intemperance are many. Lack of judgment and lack of resolution will play no small part. The fight against intemperance is accordingly a matter of enlightenment and training in which the public school especially can take an effective part.

#### THE GAINS FROM BETTER SCIENTIFIC KNOWLEDGE

I recollect very clearly the controversies which took place in the eighties as the temperance movement again set in with renewed energy. In scholarly circles as well as among the people generally, alcohol was believed in not only as a care-breaker but as an indispensable strength-giver, as a valuable source of nourishment, and only to long years of many-sided educational work on the part of scholars, philanthropists, Good Templars and temper-

ance societies, is due the fact that the value of alcohol, and particularly its nutritive value, is more correctly estimated. Education, especially education of the young is necessary if intemperance is to be finally overcome.

Our young people must learn that disease prevented is better than disease cured, that nature acts according to unchangeable laws whose transgression is inexorably punished and that there is no sympathetic medium that can arrest the punishment. Hygienic instruction adapted to training the young in a rational conduct of life is necessary in the school, if it is actually to fit them for life. . . . .

#### HIGH IDEALS AS PREVENTIVES OF INTEMPERANCE

Not only lack of judgment and will, but also lack of finer sensibilities, are fertile causes of intemperance. Men must have pleasure and if they do not enjoy what is pure and beautiful, they take to what is less beautiful and evil.

And there I see a field for a special reform movement inaugurated by artists and teachers of special fitness and earnest zeal. Unlock the school doors and open the senses and heart of our youth to art, poetry, singing, painting, and modeling. Let art henceforth be not a thing of luxury for the few well-to-do, but a necessary thing for all receptive natures whom it is possible thereby to rescue from the cares of daily life, to lift out of the routine everyday pursuits with their hurries and worries to the plane of unclouded, disinterested pleasure and receptivity. . . . .

Education in art is nothing less than the broadening, deepening and ennobling of the personal life of our children by making them susceptible to the exalted form-language of art.

An intelligent people, trained to noble aims and sturdy industry is fitted for rational living in economical, aesthetic and ethical directions and does not fall into danger of giving itself up to alcoholic intemperance.



#### PROBABLY BLUE-BLOODED, TOO

Mrs. Waldo (of Boston)—“I have a letter from your Uncle James, Penelope, who wants us to spend the summer on his farm.”

Penelope (dubiously)—“Is there any society in the neighborhood?”

Mrs. Waldo—“I have heard him speak of the Holsteins and Guernseys. I presume they are pleasant people.”—*Christian Endeavor.*

## Two Great Public Scourges

The coincidence of alcoholism and tuberculosis has been noted by many medical observers. Dr. Jaques Bertillon of France has conducted investigations on the co-existence of the two diseases, some of the striking results of which are given in this article translated from *Massigkeits-Blatter*, Jan. 1910.

**T**HE alcoholic is less resistant than the sober against the destructive attacks of consumption, and addiction to drink rapidly advances the progress of that disease. A hundred thousand deaths occur yearly in France from tuberculosis, a hundred thousand persons cut off in the best years of their life. In Paris alone, two-thirds of the 8,900 who die between 20 and 40 years of age, are victims of this disease.

Not every one, of course, is exposed to the danger in the same degree. Occupation plays a large part, and in the frequency of consumption there is a striking difference between the calling of the liquor-sellers and that of the merchants, who in many respects are placed in similar conditions. One important difference, however, is that the saloon-keeper lives in an alcohol atmosphere from morning to night and is in constant temptation to drink.

Statistics, which neither flatter nor detract, show the difference between the death-rates from tuberculosis in the two classes of callings at various ages from 25 to 65 years.

TUBERCULOSIS DEATH-RATE PER 100,000		
Age	Merchants	Saloon-Keepers
25 to 35 years	214	465
35 to 45 years	245	579
45 to 55 years	244	403
55 to 65 years	201	242

In the prime of life, therefore, the probability of death from consumption is twice as great for the saloon-keeper as for the merchant. Not until more advanced age (55 to 65) do the rates approach each other, whether it is that as they grow older the liquor sellers become more discreet, or, what seems more probable, that those who have defied the injurious consequences of alcoholism in their younger years are later not disproportionately, at least, afflicted with phthisis.

### HIGHER DEATH RATE IN OTHER DISEASES

But it is not to tuberculosis alone that the saloon-keepers are the more numerous victims; they are more subject also to most other diseases. The following table compared the number of deaths per 100,000 from various diseases among small merchants and saloon-keepers between the ages of 35 and 45.

Disease	Merchants	Liquor-sellers
Consumption,	245	579
Diseases of Nervous System,	93.8	210
Diseases of Circulation,	98.4	195
Diseases of Respiration,	139	318
Diseases of Liver,	33	210
Bright's Disease,	31.6	70.4
Accidents,	39.5	73.6
Suicides,	25.5	49.4

The difference in the rate of mortality from consumption between the two sexes is very marked, the rate being much higher among men than among women after the age of fif-

teen. At five and ten years of age, the rate is higher among girls. The following table shows the comparison based upon the number of deaths from tuberculosis in Paris from 1901 to 1905.

Age	Males	Females
5 years	45	58
10 "	47	100
16 "	275	261
20 "	431	345
30 "	542	400
40 "	821	413
50 "	862	704
60 "	645	229
70 "	573	227
80 "	220	80

During youth, while the use of alcohol plays no part except in cases of hereditary influence from drunken parents, the boys make a better showing than girls. But at 15, about the time when the boys begin to learn to drink their comparative death-rate from tuberculosis begins to be much greater.

A strong body resists the attacks of consumption to which all are more or less exposed, much better than a weak body. And among the causes of weakening, numerous and complicated as they are, the steady alcoholizing of the body is the most disastrous.

"The drinker is a sorry case", says the theorist, "but he injures only himself". This is an error. The consumptive expectorates innumerable bacilli and thereby injures his neighbors, particularly those who are susceptible to tuberculosis on account of bad physical condition, to say nothing of the hereditary consequences to the future generation.

This fact, that spirits is the chief cause of tuberculosis, provides us with the weapon for opposing them. Much more sensible than the proposal to tear down old city quarters and build new ones, more important even than the erection of luxurious hospitals, is the fight against alcoholism whereby we attack two of the greatest public scourges at the same time.

But when Bertillon recommends as the best means of combating drunkenness, the substitution of the wines of the south for distilled liquors, he advises taking a false path.

The leaders of the old German moderation movement thought to drive out spirits with the apparently harmless beer, and now we have to combat the beer plague as much at least as the whiskey plague.

He is not the wisest man who teaches his fellowmen what kind of liquor is the least injurious, but he who blazes the way for the opinion that alcohol is a dangerous and easily dispensable luxury and that, especially if used habitually, its maliciousness soon becomes evident.—Translated for the JOURNAL.

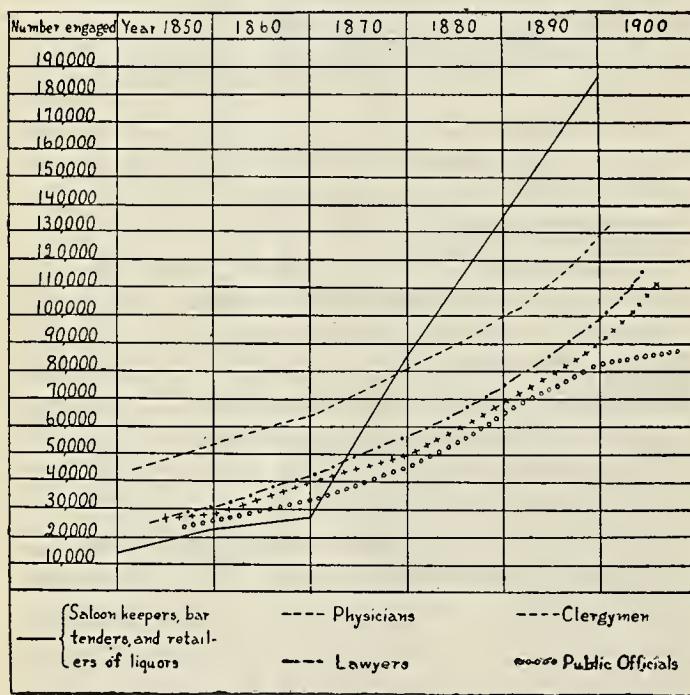
## Fifty Years' Growth

BY REV. U. F. MUELLER, C. P. P. S.

THE tables given are compiled from the census report for the years named and are presented as an indication of the numerical strength of the retail business of dispensing liquors as compared with the number of those engaged in other occupations concerned with supplying the legitimate needs of man. (Reports for 1910 not available.)

Table I compares the increase in the number of persons engaged in certain professions with those engaged in retailing liquors. Physicians, lawyers, clergymen and various public officials vary little in their respective rate of increase; the most conspicuous fact is that in 1880 the liquor retailers and dispensers began to outstrip the professional men until

### I



Increase in the number of liquor dispensers as compared with that of professional men.

in 1900 they exceeded physicians alone by 54,000.

In Table II the liquor dispensers are compared in numbers with tradesmen and other business men. Here in 1850 the grocers were in the lead but by 1890 were outnumbered by liquor dispensers by 22,000 and in 1900 by 30,000.

Butchers managed to keep ahead until 1870 when they began to fall behind to be ultimately outstripped by 73,000.

Bakers, though ahead in 1850 were outnumbered by about 40,000 as early as 1880.

The amount of intoxicants consumed has kept pace with the increase in the number of sellers as shown by Table III. Although the per capita consumption of spirits was on the

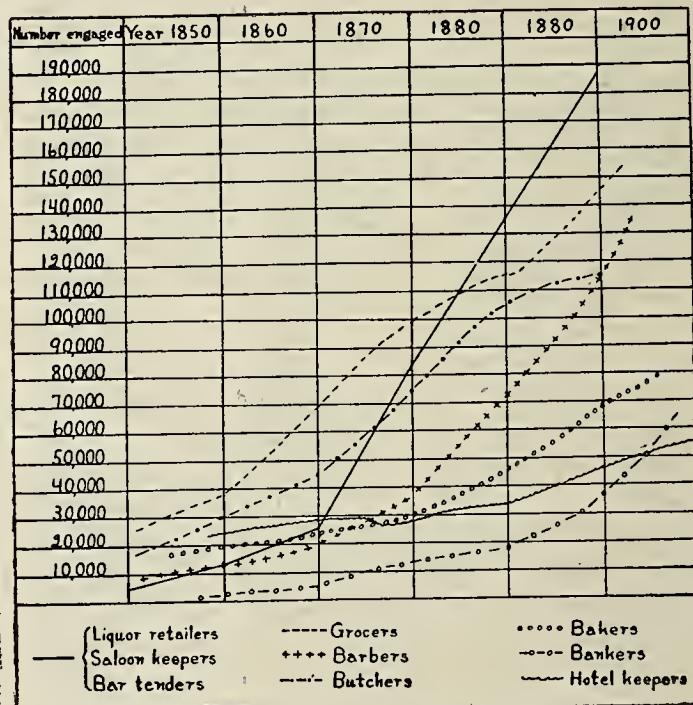
decline between 1860 and 1880 it has held its own since, while beer has risen to the enormous quantity of 16 gallons per capita per annum. (See table III on page 37.)

Further, if the amount of alcohol in spirits be estimated at 50 per cent., in wine at 10 per cent., and in malt liquors at 4.5 per cent., it appears from Table III that the consumption of absolute alcohol is practically unchanged so that the immense increase in the use of beer has not diminished the dangers from alcohol.

### A Temperance Compayn

Rev. Francis E. Clark in an interesting article on the "Collective American" in *Leslie's Weekly*, has the following evidence to give on the sobriety of Americans. Few persons, perhaps, are better qualified by extensive obser-

### II



Increase in the number of liquor dispensers as compared with that of business men.

vance in travelling in all parts of the world to give evidence on this point. The "fellow passengers" in this case were 650 Americans on an around-the-world excursion.

No better chance did one have to study the collective American than on the Cleveland. He came from nearly forty different states. . . Many organizations, too, were represented. The Masons had a large delegation, and the Elks as well. Daughters of the American Revolution were much in evidence and nearly a hundred "Endeavorers." . . . There were generals and colonels and captains to officer an army. We had local magnates galore, men who are of great importance in their own bailiwick be it large or small. There were thirty doctors and dentists, but only five clergymen.

There were rumors that a Standard Oil magnate let his light shine on board.

Those fellow passengers were a wonderfully temperate lot. Nine-tenths of them, I should think, were abstainers. In the great dining-room it was a rare thing to see even a bottle of wine or beer on the tables; and as for whisky and brandy, I did not see a single bottle appear at meal time. Out of three hundred Englishmen on such a cruise, two hundred would have had their whisky and soda at every principal meal. Out of three hundred Germans two hundred and eighty would have had their foaming steins of lager beer. Out of three hundred American men (we will give the ladies credit for the other three hundred and fifty on the Cleveland) two hundred and eighty had only a glass of cold water.

It is said that the chief steward of the Cleveland, which is a German ship, was very much distressed over the temperate habits of his patrons on this east-bound cruise, having laid in twenty-two tons of soda water in bottles to "qualify" the whisky, but little of which was demanded, besides 22,350 bottles of wine and 6,500 gallons of beer.



## A Reform] That Everybody Can Help

BY REV. WILBUR F. CRAFTS, PH. D.

HERE is no one method of promoting reform in which so large a number of people can effectively participate as that of writing letters. It is said that when *Collier's Weekly* was making its fight against drugs that are half whiskey, some one wrote the editor: "You are attacking whiskey by the spoonful in your editorial columns, and recommending it by the bottle and barrel in your advertising columns." To which the proprietor is said to have replied: "You have got a good one on us. We will stick to the fight against the drugs and put out the drinks." And the liquor advertisements, although commercially worth hundreds of dollars, were thereupon banished from that periodical.

We subjoin a long list of leading magazines that have the same policy, some of them because of similar letters. We shall be glad to add to the list any other magazines of the same class that are entitled to be in this roll of honor which we propose to send out widely, when revised to Y. M. C. A. reading rooms and others that are anti-alcohol.

It would be well if some one would make a list of prominent daily papers (all too few) that, like the Philadelphia *North American*, refuse liquor advertisements. And it would be interesting to have a list of weekly papers

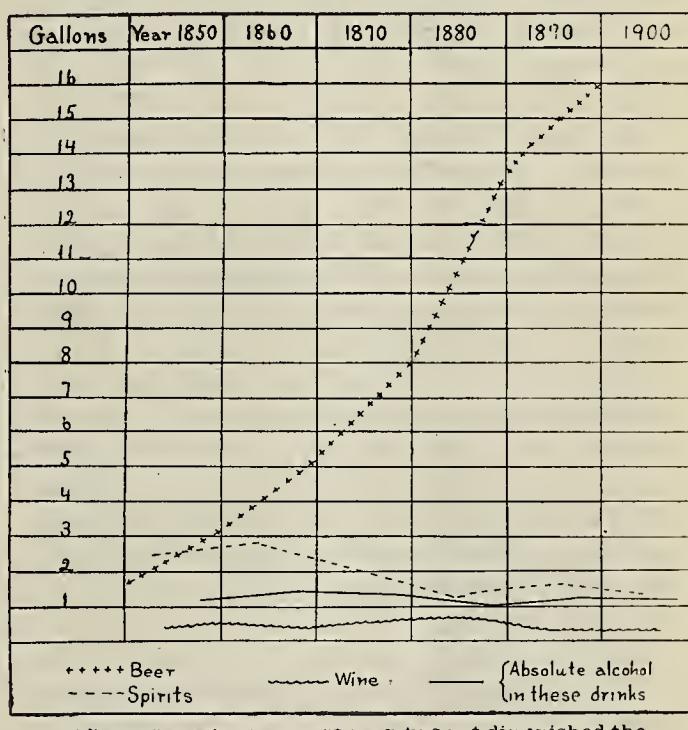
also, other than the religious and reform papers, which take the same stand.

We suggest that every one who believes that the drug habit and the liquor traffic are harmful to the race shall carefully look over those which he now takes before making his selection of magazines for 1911, and notify those which contain liquor advertisements that unless they are intending to turn over a new leaf in this matter with the New Year, the subscriber will have to change to some magazine that does not bring into the home deceptive invitations to indulge in poisonous beverages.

Mrs. Zillah Foster Stevens, Secretary of the International Sunday school Temperance Department, is said to have learned from the publishers of the following magazines that they do not advertise liquors:

"All Story," "American Boy," "American Magazine," "American Review of Reviews,"

### III



The increase in the use of beer has not diminished the dangers from alcohol."

"Arena," "Argosy," "Century," "Circle," "Collier's," "Country Life in America," "Current Literature," "Delineator," "Designer," "Everybody's Magazine," "Garden Magazine," "Good Housekeeping," "Housekeeper," "Housewife," "Ladies' Home Journal," "Ladies' World," "Literary Digest," "Living Age," "McClure's Magazine," "Modern Priscilla," "Munsey's Magazine," "New Idea Woman's Magazine," "New England Magazine," "Ocean," "Outlook," "Railroad Man's Magazine," "Saturday Evening Post," "Scrap Book," "St. Nicholas," "Suburban Life," "Success Magazine," "Uncle Remus's Magazine," "Woman's Home Companion," "Woman's Magazine," "World To-day," "Youth's Companion."

## Childhood's Martyrdom

By FRANZISKUS HAHNEL

[The following article appearing in the last number of the journal of the German Abstaining Teacher's Society, is an appeal for more active effort on the part of the members of that organization for the relief of the suffering endured by the children of drinking parents.

The conditions which called forth the appeal are not peculiar to Germany. They exist throughout Europe and America, as the newspapers in all these countries abundantly testify. Only the names of the places differ; the stories in all essential details are duplicated wherever helpless children are at the mercy of parents brutalized by drink. Prof. Hahnel sees how teachers could work to relieve some of this suffering, and his appeal is as fitting for and calls for as active a response from teachers in America as in Germany, France or any other country where the same conditions prevail. The article, somewhat condensed in translation, is given below.]

**T**HIS paper has often emphasized to the lives of the pupils committed to teachers the necessity of removing from their care everything that stands in the way of the educational work. As teachers we [of this organization] abstain from alcohol because we realize that only by so doing can we impress upon the young, with all the strength of our own conviction, the warning, Beware of intoxicating drinks.

The inquiries our society has instituted, like those by school officers and teachers of many cities, have again and again brought out the fact that a greater part of the youth of our times must do homage to the use of alcohol because the present drinking customs compel compliance, because the ignorance among all classes of people in our fatherland is still so great, because, more than all else, our teaching profession is not yet sufficiently aroused to give effective warning and admonition. The feeling of responsibility in our own ranks needs to be more generally awakened.

We are yet a long way from the Child World (*kinderland*). In spite of all our care of the young, in spite of the strenuous exertions of well-meaning societies and officials, we are not yet in "the country of the child", and we shall not be as long as alcoholic drinks are allowed to play the smallest part in the life of the young.

It often seems to me as if we pursued what is the generally called the ostrich policy. We close our eyes to the suffering of the children. We stop our ears against the horrible tale of the national statistics.

Every year 450,000 infants fall as dead blossoms from the German tree of life. In Bavaria, for instance, out of 450,000 infants 6,500 are born dead, and 69,000 die during the first year of life. Tens of thousands of mothers in the beer-land of Bavaria see themselves cheated of their fond hopes, thrown into the deepest sorrow. From an exact count of 20,008 children belonging to 5,845 families, the well-known investigator, Prof. Laitinen, has shown how seriously even moderate drinking on the part of parents affects their children.

If only we could get rid of alcohol in Germany, our infant mortality would strikingly decrease, as to that there can be no difference of opinion. Norway proves it to us. Before

the temperance movement gained such headway 300 out of every 1,000 children died there during the first year of life, as is the case today in Bavaria; now, infant mortality in Norway has fallen to between 80 and 90 per 1,000. That shows that a new and healthy generation is coming up.

A terrible tale of children's misery is told by the last report of the German Central Society for the Care of the Young. There are reported 1,695 cases which were sent to them by the courts, police, clergymen, physicians and societies, and the 1,695 cases represent so many child tragedies played in the midst of the great city without the public knowing anything about them.

The drunkenness of their parents was the immediate cause of the application for care in 117 cases, but in all the reports of ill-usage, prostration, immorality, crimes, etc., alcohol is always the inciting or direct cause.

Is all this child misery nothing to you, German teachers? Shall it be said of you that you have no desire to help? The trouble is, people do not understand even in our own ranks that it is still darkest night. As long as our associates are not themselves free from the prevailing views in regard to drink they will be unable to comprehend the misery of the children, or that teachers can do a great deal to alleviate it if they will.

Day after day, the newspapers tell of suffering that cries to heaven. For two years I have collected as much as I could from the daily papers concerning the influence of alcohol upon family life. Before me now lie hundreds of clippings on the subject of "Child-Suffering and Alcohol". Between April first of last year and April first of this year there were not less than 183 reports similar to the following which are certainly only a small part of those occurring in our country, many of which never reach public knowledge.

"Schleswig-Holstein Volkszeitung, Jan. 13, 1910. Consequences of Alcoholism. A few days ago, a fight occurred in the "standing beer hall" of Keil, in which a father who had seven children to support got his leg broken."

"Bavarian Courier, Munich, Jan. 21, 1910. Notes from South Bavaria. As a result of over-indulgence in alcohol a wagon-waker of Neustift pounced upon his only child, an eight-year-old girl, pulled her from the bed and threw her out of the window."

"Dusseldorf Daily, Feb. 10, 1910. The Martyrdom of Two Children. A woman living on Loretto street was sentenced by a justice to a week in prison for

inflicting dangerous bodily injury. As the woman appealed against the sentence, the matter was brought before the court where the evidence taken showed that she was given to drunkenness and was the mother of several young children. Two of these, an eight-year-old boy and a twelve-year-old girl were continually maltreated in a most brutal manner. Kicks and blows with a leather strap were an everyday occurrence. The woman struck regardless of where the blows fell, and the screams of the misused children filled the whole neighborhood. Besides, during her daily abandonment to drink the children were shamefully neglected, and when the neighbors remonstrated she replied that she did not care what became of them. The twelve-year-old daughter remained away from the house all day because she was afraid to come home, but early in the morning the beating began. Finally, the authorities interfered and the children were taken away from the unnatural mother."

How can one's heart beat quietly while such things go on? Yet thousands read of these occurrences day after day without being moved by them.

According to a careful enumeration, we have upwards of 400,000 alcohol-sick men, "drinkers" according to the usual term. 300,000 of them are married; and have, all told, about a million children.

I will not dwell upon the enormous num-

bers who are in asylums as idiots, epileptics, feeble-minded, cripples, etc. But from the mournful eyes of these children comes the constant reminder that alcohol was in a large number of cases the spoiler, alcohol which the state allows to be retailed in city and country with high official approval, and the sins of the fathers are visited upon the children to the third and fourth generation.

Truly we are yet a long way from the Children's World. If we would find the way to it we must first make an inexorable, untiring fight against intoxicating drinks.

Upon us, members of the German Society of Abstaining Teachers, lies the duty of calling into this battle others of our profession, by hundreds and thousands. We have to make good to the children of the future for the sins that have been committed upon the children of the past. Let us have tens of thousands of abstaining teachers who will be so many combatants declaring war to the knife upon the allies of child suffering.

## \* \* \* \* \* Controverting Science

BY E. L. TRANSEAU

THE attitude of the brewing industry toward the scientific study of alcoholism is well shown by a remark in a recent number of the *Brewer's Journal* concerning the Exposition of Alcoholism which is to form a part of the International Congress on Hygiene in Dresden, 1911. This section is in charge of Prof. Max Gruber, President of the Royal Hygienic Institute of Munich, assisted by other scientists of high rank.

The correspondent of the *Brewer's Journal* says that the majority of those in charge of this section are "teetotalers and idealists," and adds:

"It will be well for the trade in all countries to send representatives to that congress to prevent it from being proclaimed as an aggregation of scientists whose judgment might be taken seriously, if proper measures be not taken to controvert it."

A glance at the list of these "scientists" whose judgment is to be "controverted" by the brewing trade, reveals such names, in addition to that of the director, Prof. Gruber, as the following: Dr. Gonser, Counsellor to His Majesty the King of Prussia; Prof. Kraepelin, Counsellor to the Royal Court of Bavaria, and Professor of Mental Diseases in the University of Munich; Prof. Moeli, M. D., Privy Councillor, Berlin; Prof. von Bunge, M. D., of the Chair of Physiological Chemistry in the University of Basle; Dr. Hercod, professor in the College of Lausanne; Prof. Laitinen of the

University of Helsingfors; Dr. von Strauss und Torney, of Berlin, Chief Counsellor of the Supreme Court of Prussia and President of the Senate of Administration; Prof. Weichselbaum, Counsellor to His Majesty the Emperor of Austria, a leading anatomist and for many years professor in the University of Vienna.

It will be interesting to see how the brewers will attempt to controvert the judgment of these men. At first thought one might suppose that it would be useless for them to make the attempt, but a glance at the page advertisements of the large brewing firms in leading daily newspapers shows how such contradictions get a hearing. Money buys the space that will fall under the eyes of people who have no knowledge of the subject and no scientific training which would lead them to challenge statements unsupported by or out of harmony with existing evidence.

A striking example of this method is furnished by a page advertisement in a large Chicago daily which contains a dozen or more subtly planned statements, each intended to win favorable opinions for beer, regardless of the opposing evidence.

For the sake of those likely to be influenced by this mercenary juggling with scientific truths concerning beer, it is important that the misleading assertions be met by widely promulgated statements of the corresponding facts.

### THE ALCOHOL IN BEER NOT INCONSIDERABLE NOR HARMLESS

The beer advertisement asserts, that:

"Beer contains so small a percentage of alcohol as to render it absolutely harmless when taken in moderation."

Accepting the minimum percentage of alcohol so far claimed by the brewers, 3½ per cent., and the minimum interpretation of moderation as not less than one glass a day, more probably from three to four glasses, which is the brewers' estimate of moderation, it is easy to compute the amount of alcohol the drinker gets in his moderate allowance of beer.

One ten-ounce glass of 3½ per cent. beer would furnish 35-100, a little over 1-3 of an ounce of alcohol, or 10½ grams, the measure usually employed in laboratory work. Two glasses would furnish 2-3 ounces, or 21 grams; three glasses, one ounce, or 30 grams of alcohol.

Very exact tests have been made of the effects of these quantities of that drug. The amount in one glass, ten grams, has been found to lower both muscular and mental working ability during the time of its influence (experiments of Destréé and of Kraepelin). It has also been shown to impair for half an hour or more the ability to distinguish between the loudness of sounds (Specht).

Less than the amount of alcohol in two glasses of beer, as little as 14.7 grams, measurably reduced the muscular power of Dr. L. Schnyder in a series of experiments carried out with Prof Paul Dubois at Berne, Switzerland (1903). Dr. W. E. Dixon has found by experiment that the heart is depressed when the blood contains a percentage of alcohol equal to what would be thrown into it by 22½ grams, a trifle over the amount in two glasses of beer.

The amount of alcohol in three glasses of beer, 30 grams or one ounce, has been tested in various kinds of head and hand work and found to impair them all. One very exact and interesting experiment in writing reported by Dr. Mayer (Heidelberg), showed a retardation of over 7 per cent. in the time required for writing certain letters of the alphabet after taking this amount of alcohol.

A very practical application of the facts obtained by these exact laboratory investigations was made by the railroad manager who said to an engineer, "If it takes ten glasses of beer to make a man drunk, when he has had one glass he is one-tenth drunk."

Instead, therefore, of being "absolutely harmless," beer used in the strictest moderation furnishes enough alcohol to injure a man at a very vital point—his money-earning power.

### DRUGGING IS NOT NORMAL STIMULATION

"But beer contains enough alcohol to produce that mild form of stimulation and exhilaration which the human system craves," continues the beer advertisement.

Drugging the brain with a narcotic which first excites and then depresses, is not a normal fulfillment of the natural desire for inspiration or exhilaration. The effect produced by a glass of beer is a drug effect, a dulling of the higher centres which causes relaxation of control, and a consequent brief stage of excitement, followed quickly by heaviness.

"Whenever alcohol promotes sociability and loosens the tongue" says Dr. Forel, "it is the result of brain intoxication." A more general knowledge of this fact is needed to correct the widely prevailing opinion that a man is not intoxicated as long as he can walk.

A properly conducted life finds many opportunities for receiving uplifting inspiration or normal mild stimulation without the evil consequences that follow trying to counterfeit these sensations by the use of a drug.

### THE CLAIM OF ABSOLUTE PURITY

"Beer is absolutely pure, being entirely free from disease-laden germs so frequently found in milk and water," boasts the advertisement. "It is one of the beverages that can not be adulterated or tampered with from the time it leaves the manufacturer until it reaches the consumer."

And yet, at a meeting of a Brewing Society in Chicago, March 17, 1910, a long paper was read about what happens to beer between the brewery and the consumer. The following are some of the happenings: (1) Faulty or dirty packages; (2) faulty "pitching" which leaves spaces for impurities that sooner or later get into the beer; (3) careless handling which may also loosen some of the "pitch"; (4) metal turbidity caused by the "cooling coils" made of tin in the retailer's place; (5) steaming or boiling out the coils is liable to "bake" on the impurities which later flake off in the beer; (6) impure air is frequently carried into the beer from the ice box or basement when the beer is pumped by air or water pressure from these storage places to the consumer's glass; (7) the water pressure pumps may leak, and air and water both be forced into the beer; (8) the rinsing of the glasses after use may not be inviting when "the glass disappears behind the bar and is rinsed in water of indescribable condition."

With bottled beer troubles also occur. "With all due care," says this brewing instructor, "every brewer may have unpleasant experiences, due to faulty closing or capping devices, faulty glass, or handling in transportation. Metal turbidity may be produced by

the action of salts on the tin or iron either from the pipes used in the bottling department, or from particles adhering to the bottles after leaving the soaker and washer."

These impurities may not be of great consequence, but they do not warrant the dogmatic claim that beer is "absolutely pure."

It has been repeatedly shown (by the Committee of Fifty and others) that the impurities or adulterations in any alcoholic liquors are of very small importance compared with the ever present poison—alcohol. That is the ingredient which causes the slow, chronic intoxication of the body known as "alcoholism."

#### TEA AND COFFEE DRINKING DO NOT BURDEN THE TAX PAYER

"Beer does not contain caffeine, as does coffee, nor tannic acid, which is peculiar to tea," continues the advertisement. If beer only did contain these substances *instead* of alcohol, the brewers would be as free from what they term "persecution" as are the tea and coffee producers. Mints of money would not be needed to buy up newspapers, press, type, and ink-pot, to defend their wares. Judges are

increasing in the growth of organic, nervous and mental diseases, inebriety, etc. This increase of alcoholism keeps step with the increasing use of beer.

#### WHAT BECOMES OF NUTRITIVE MATERIALS

"Beer is made from selected materials high in their percentage of nutritious elements," asserts the beer advertisement; but it says nothing about the destruction of those nutritious elements during the processes of brewing which converts the former food substances into the poison, alcohol.

#### THE "LIQUID-BREAD" DECEPTION

"Beer has been very appropriately called 'Liquid-bread'" says the brewer's page. "One quart contains one-tenth to one-fifth pound of dry substances, consisting of albumen, nutritious salts, especially the all-important phosphates and extract of malt."

The propriety of calling beer "liquid-bread" may be judged by the following comparison of the constituents of bread and beer, ascertained by exact analysis and published by the Committee of Fifty ("Physiological Aspects of Liquor Problem," Vol. II, p. 342.)

Water	Indigestible Nutrients	Food Material Proteid, Fat, Carbohydrates, etc.	Ash	Alcohol
Bread 36.3 per cent.	2.9 per cent.	61 per cent.	.8	0.
Beer 89 per cent.	.2 per cent.	6 per cent. (Extractives)	.3	3.5

not saying that 90 per cent. of the crimes coming before them are due to tea and coffee; the public is not taxed to build institutions for the cure of tea drunkards, or asylums for the insane, feeble-minded, epileptic, and indigent victims of coffee.

#### PHYSICIANS UNITE TO CONDEMN IT

"Beer acts as a tonic, and for this reason has received the hearty indorsement of leading medical and scientific authorities the world over," announces the advertisement. But it can not boast of state, national and international societies of physicians banded together to promote the use of beer, as there are to combat it and all beverages containing alcohol.

#### THE CONSPICUOUS PRO-BEER ECCLESIASTICS

"Eminent ecclesiastical authorities have long recognized beer as an important factor in the world's campaign for temperance," is the other leg of this prop.

Ecclesiastical gentlemen who use this argument are conspicuous for their singularity as well as for their ignorance of the historical fact that where the experiment has been tried the people have found themselves saddled with a beer plague as pernicious as the whisky evil. This is the experience of Germany, Belgium and England, the leading beer-drinking countries of the world. Instead of a decrease in alcoholism, they see the marks of its ravages

This analysis shows no warrant for crediting a quart of beer with "1-5 pound of dry substance consisting of albumen, nutritious salts, etc." All that can be credited with nutritive value is the 6 per cent. of extractive matter, largely dextrine, and in a quart of beer, weighing about 2.12 pounds, this extractive would amount to only .127 of a pound or 2 ounces. The "all important phosphates" are present in the remarkable proportion of 32 per cent. of the ash, which in turn constitutes 3-10 per cent. of the beer. A glass of beer, therefore, would furnish 32-100 of 3-1000 of 10 ounces, or a little less than 1-100 of an ounce of phosphoric acid.

The nutriment in the beer moreover, would cost from 12 to 15 times as much as the same amount in the form of bread. That is, 1 five-cent loaf of bread weighing from 12 to 15 ounces furnishes 7.32 to 9.15 ounces of nutriment; 1 five-cent glass of beer, 10 ounces, furnishes 6-10 of an ounce of nutriment. The same money spent for bread, therefore, buys from 12 to 15 times as much nutriment as it does when spent for beer.

But even if beer contained more nutriment than the brewers claim so long as it also contains a poison which the history of the world has shown to be an enemy to mankind, so long it must be denounced and measures taken to protect society from its evil effects.

# Scientific Temperance Journal

Founded by Mary H. Hunt

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"Be kind:  
The whole creation groans in anguish sore;  
Lay not a finger-weight of sorrow more  
Upon the suffering heart of man or beast;  
Bind up the broken-hearted, help the least;  
A mission for our love we all may find;  
Be kind."



## Responsible Majorities

**A** GOOD deal of fervid oratory is expended in pre-election period on the subject of the majorities as the controlling element in popular government. As a matter of fact the power of majorities in government lies not merely in a numerical but still more in a responsible strength. Mere numbers do not necessarily represent the conviction founded on well understood principles that is needed to ensure the continuance and progress of public welfare. Some of the worst scenes of the French Revolution were expressions of the will of majorities. Intelligence as to the issues involved in any question, acceptance of responsibilities involved in making a decision upon it—these are the characteristics of the majority, decision that signifies real progress.

Whirlwind campaign for legislation often leaves emptiness and disappointment in results unless it has been preceded by the slower, less spectacular but fundamental work of education in the particular principles involved. There is no royal short-cut in social reform.

It is true that legislation whether on the alcohol question or any other social problem is often educational in its results. Bits of advantage are gleaned and added to the store of experience and observation. It tests the majority responsible for it as to whether moved by firmly grounded principles or by the passing excitement of a stirring campaign. It is apt to reveal the weak spots in previous educational work.

In the main however, the secret of progress by the will of the majority lies in thorough, systematic unceasing education of all the people in those facts and principles from which the social fabric must be woven.



## The True Function of The School

IN one of the large cities there is a school located in a district which is the seat of the brewing industry, where many parents use drink, and where representatives of philanthropic organizations find there is a serious increase of the drinking habit among women. The school occupies a vantage point of opportunity for teaching the children the dangers of the habit which permeates the home and social life but has adopted the policy of "glossing over" the temperance teaching because "so many of the parents drink the child should not be taught that it is a crime for his father to drink."

It would seem as if the fallacy of this reasoning would be evident to anyone who has ever given the subject one moment's serious consideration. It rests upon an erroneous conception of the viewpoint for this teaching. It is never necessary or desirable to teach the child that it is a "a crime" for the man to drink, although in the strict sense of the word in the light of modern knowledge the term is not far from correct. But the function of the school is to teach the child the facts—what drink may do to man and his usefulness in the world—not to criticize the man who has formed the habit.

This is precisely the point at which the physiological fact has the advantage in training the child to sobriety. It is the point of view held in teaching all other aspects of hygiene. The same parents who violate hygienic law in the use of alcoholic beverages, undoubtedly violate a dozen other hygienic laws daily, yet the school finds no difficulty or shows no hesitation in teaching the children better. Make the instruction impersonal; teach the truth fearlessly; appeal to the child's ambitions and pride and as he grows older, to his social responsibility. If the question of parental use of alcohol is raised by the child himself, it can always be met kindly and frankly with the statement that when our fathers and mothers were children, many of the facts about drink which we know today had not been found out, or the parents had not had opportunity to learn them. If the child persists that the habit does his parent no harm, tell him of the delicacy used in making the experiments which have found out the real effects of drink and make it clear that we, un-

trained in observation, can no more judge correctly of the real effects than we can of many other matters. To the untrained, for instance, the moon looks only a few feet across, the sun appears to set, the snowflakes do not show their true form except under a microscope. So we with imperfect knowledge cannot always be sure that our observations are correct.

It is of the utmost importance that the school get the right viewpoint in this matter. Certainly it has no right to shirk its responsibility and lie down under a difficulty which is not considered a handicap in any other branch of education.

## The Perils of Drinking and Gambling in Building a Career

BY FREDERICK A. ATKINS

THE man who is trying to build a career ought to be told that out of six failures at least three are due to drinking and gambling.

There was a time when few men gave up drinking except under the compulsion of high moral principle. But today athletes are discovering that it is impossible to break records on beer. Insurance companies, influenced by nothing but the inexorable logic of figures, find that total abstainers furnish better business than the most moderate drinkers; and thousands of shrewd business men, who do not care a brass farthing for any temperance crusade, have quit drinking for the simple reason that in the stress of modern competition they need a clear brain and a steady hand and complete control of all their faculties. They say that the fear of a blotchy face has drawn more young men from drink than all the temperance lectures, and it may be.

So if any youthful reader is addicted to gambling, I will not tell him that it is wrong and foolish; I will suggest that it is probably shortening his life.

Does gambling, then, lead to physical degeneration? That is the deliberate opinion of many experienced doctors. Sir B. W. Richardson used to say that all professional gamblers had weak hearts. The intoxication of gambling is quite as bad as that which follows a drinking-bout. It weakens a man's will, leads him to neglect his business, fills him with wearing anxiety, and when he loses, tempts him to steal. It is true that there is excitement in legitimate business, but it is not so chronic or so maddening as the desperate fever of the gambler. The tormenting anxiety of gambling quickens the heart-beats; the overworked heart is weakened; health is destroyed; and

very often life is shortened. Avarice, with all its fret and fury, not only blunts the finer feelings and leads to moral decadence; it also narrows the mind, squanders the nervous energy, and enfeebles the body.—*Christian Endeavor World.*

## Science The Handmaid of Religion\*

BY GEO. J. FISHER, M. D.

Secretary Physical Department of International Y. M. C. A.

THE chief function of the Sunday school in the teaching of these extra Biblical subjects [those related to health, efficiency and purity], is to make the spiritual application not to teach the scientific facts. But in many subjects the only method of instruction is the scientific method. We must build up our instruction upon the scientific basis and scientific facts. This is absolutely true, for illustration in the teaching of temperance. The old methods of teaching total abstinence have not availed for the reason that they did not have their basis in accurate facts. To say to every boy that if he touches one glass he will become a drunkard does not convince him for he may know many who take more than one glass and are not drunkards. But if you can show that even moderate doses of alcohol are injurious by interfering with quick thinking, with ready action and steady nerve control, your proof will be exceedingly convincing, when you add to this and base upon it your spiritual application.

The Bible abounds in frequent utterances in reference to diet, temperate living, continence and physical exercise. There can be given practical application and a fund of scientific material is available which can be used for this purpose. To this end the teacher should keep in touch with those agencies which provide material for such subjects as, for illustration, the SCIENTIFIC TEMPERANCE FEDERATION on temperance, the American Society of Sanitary and Moral Prophylaxis of New York on sex hygiene, the American Health League of New Haven on health facts and the Health Education League which issues health pamphlets. We must combine the love of science as Dean Hodges says, with the love of man.—*North Adams, Mass., Evening Transcript.*

\*From an address on "The Teaching of Personal Hygiene in the Sunday School," given at the Twenty-first Annual Convention of the Massachusetts Sunday School Association.

### TIME BY THE FORELOCK.

Scientist—"We Americans eat too much."

Ordinary Citizen—"Yes, we see the cost of food going up so fast that we feel there is no time to lose."—Ex.

# Class-Room Helps

Conducted by Edith M. Wills

## The Story of The "Clean" Smile

### TEACHING THE CARE OF THE TEETH IN INTERMEDIATE GRADES

OUR visitor," said Miss Loren to her forty sixth-graders, "is interested in the good care of the body. Let us all give her a 'clean' smile."

Thereupon forty wide and dazzling smiles showed what appeared to be forty sets of fine white teeth.

"There are now only four or five pupils who have unsound teeth" she said with satisfaction, "and I think they will be attended to soon."

"How did you do it," asked the visitor, "other teachers would like to have the secret".

"But it seems almost too simple to tell," she replied. "However, I will tell you and you may pass it on if you like."

"Always, you know, there are some gigglers in school. I wait a little and the first time giggles interfere with some thing the children wish to hear or spoils a good time, I seize the opportunity to convince the pupils that they themselves suffer annoyance from the giggling and it interferes with work, therefore it ought to be controlled ; and, then I use it as the beginning of my lessons on the care of the teeth.

"We discuss the question of smiles and they suggest different kinds of smiles such as the sad, patient smile of the sick child, the bright smile etc., and, of course, we note that it is pleasant to see sunshiny faces. When the children can think of no others, I say, 'I know of a smile you have not mentioned.' They cannot guess it. Then I tell them it is the 'clean' smile.

"What would make a clean smile. We decide that it is different from all the others and that only a clean mouth with white, clean teeth can enable one to give a clean smile. How many will plan to give me a *clean* smile in the morning? In the morning some have forgotten but a number have scrubbed the teeth and three or four of those having the very cleanest are honored by being asked to come to the front of the room and smile widely at their little mates. All who can are asked to welcome the nurse or the master with a clean smile and tooth brushes flourish. This is a new and picturesque way of getting at it.

"Presently some of the children report that although they have brushed and brushed, their

teeth won't come clean enough so they wish to smile." (Their teeth are unsightly from discolorations or decay.)

"This is the next point for which I have been waiting. We study our books, look at the pictures and try to find out all about teeth. I sketch teeth on the blackboard and explain their structure. Each child counts his teeth with his tongue. Let us see what causes teeth to discolor.

"One cause, we learn, is cigarettes and smoking may injure the teeth as well as discolor them.

"There is another and more common condition. On one of the teeth I have drawn I make a tiny point to represent a cavity. It might start from a little break in the enamel where some careless child bit a thread or some hard substance. Particles of food settle on this roughened place ; it is very warm in the mouth, bacteria grow and multiply in the particles, they decay and an acid is formed that eats into the tooth. Now that the strong enamel is broken, the acid from more particles of food keeps working and the cavity in the tooth grows deeper and deeper. Candy and very sweet foods are worse than others.

"The hole is deep now, so deep that it allows the soft pulp containing the nerve to be injured (show on drawing), and then there is a dreadful toothache and perhaps a swollen face.

"But even though the enamel is not broken, if the teeth are not cleaned the bacteria are at work, the food particles left after eating, decay and after some time the acid eats a hole into the tooth. It doesn't all come at once. Indeed it comes so slowly that perhaps you can't believe it will come at all, but it surely will. If nothing is done to stop it, the crown of the tooth may go to pieces, the roots become sore and ache and have to be taken out by the dentist, a very painful operation, as perhaps some of you already know. There is only one way in which we can save ourselves all this pain and loss. If, as soon as we find a cavity started, we go to the dentist he will fill it without hurting scarcely any and the tooth will be almost as good as it was before. The longer we neglect it the more it will pain us.

Boston teacher whose school was visited.

"But the unsightly looks of the teeth and the pain are only a part of the mischief. Are our teeth given us mainly for ornament or are they very useful, even necessary to our good health? How long must these last you? We learn the very great importance of chewing the food properly and how the loss of even one tooth hinders this process. We pay special attention to the sixth-year molars because we know they are important grinders and will not be replaced if lost. Also, if they, or indeed any others, are lost there is a great probability that those beside them which are partly kept upright in their places by those next to them, will lean over sideways so the chewing surfaces do not strike those opposite to them properly. This is a very serious matter. (Sketches of the teeth with their roots in position and then with a tooth out make this clear.)

"Now that we understand the structure of the teeth, what causes them to decay, that tooth decay means pain and often loss of teeth and impairment of good looks, and so of health, we are ready to learn particularly how to care for them. We know now that decay is chiefly due to bits of food left on the teeth so cleanliness must be the great means of prevention. We learn how and when to brush the teeth inside and out and on the chewing surfaces and how to use the dental silk and the wooden or quill tooth-pick and why pins are taboo.

"Some of the children have no brush and powder and they are instructed to ask their parents or perhaps an older brother or sister for these necessary things.

#### ESTABLISHING HYGIENIC HABIT

"Now it remains to follow up the tooth cleansing till habit is established and to get the cavities filled.

"Every day I questioned the children to find out how many had brushed the teeth, varying the form as much as possible. (This was also an exercise in morals for I carefully taught them that while it was desirable to have cleansed the teeth and to have the good opinion of one's mates, nothing could be so important and praiseworthy as to be entirely truthful.)

"One day I ask how many can give me the 'clean' smile and then have three or four of the cleanest go before the class. This gives an opportunity to encourage some who may have had to work specially hard. Another time I tell them that each who cares to do so (always there is the condition of fitness) may give a clean smile to his neighbor across the aisle, or to the one in front of him. If careless Tommy Jones sees the shining ivories of Mary

Smith he has a double object lesson; he feels the shame of uncleanly habits and the beauty of cleanliness is impressed upon his mind. He registers a resolution not to get caught that way again. We always greeted the master and nurse and usually the visitors with a 'clean' smile and the children thus felt themselves liable to be called to dress parade any time. The lapses grew less and less and during the latter part of the year we had 'muster' twice a day. The time came when some of the pupils scarcely felt it proper to give the 'clean' smile after lunch unless they had brushed the teeth afterward.

#### PROBLEMS OF CONSERVATION

"But the problem of getting all the teeth filled, and of securing necessary extractions was more serious and all sorts of devices had to be employed.

"We urged that pain would come, the looks be impaired, that disease germs could lodge in the cavities and multiply and when food was eaten this unclean matter must get upon it and into the stomach and so germ diseases come; or we spoke of the busy little factories making clean saliva to help digest the food and then of its being made unwholesome by these diseased teeth. It gave the breath a very unpleasant odor. I asked them to take a glass and look for themselves to see whether they wished delicious food to pass over such teeth. A speckled apple placed in contact with a sound one showed how a carious tooth is likely to cause the sound one next to it to decay.

"Of course there were cases of neglect in mothers almost too busy or too ill to take the children to a dentist and often the expense was a serious item.

"Sometimes when the necessary work was delayed, I selected the worst tooth and asked the child to show it to his parents and ask them to have just that one, so very needy, attended to. Often when that was done the others were cared for too. If not, after a time the most needy tooth remaining was pointed out and treatment asked for.

"When necessary I went to the homes and explained the needs of the child, met the objections as best I could and by using all the tact possible, secured some results. In one case, the older sisters who were working were persuaded to deny themselves a good time or two that little sister might have the teeth saved. When necessary I called out my reserves, the nurse, to visit some home and she would get the parents started or make arrangements to take the child to the dispensary for free treatment. It was considered quite a serious matter when the nurse had to take a case in hand.

"One child's teeth were really in a shockingly unsanitary condition and nothing had availed to secure a change. At last I examined them and spoke very seriously about it and said he must go to the nurse and see what she would think of such a mouth. Then I privately explained matters to her and asked her to show how shocked she was. Accordingly when the child showed himself she threw up her hands in horror. What a dreadful state of things! Could it be possible that any child could be found in such a condition! The mouth must be attended to at once! It was.

#### AN EXAMPLE IN SUBTRACTION

"Another incorrigible case was that of a wilful little girl who had two temporary teeth which, not having been extracted at the proper time, had been crowded to one side by the permanent teeth, were now unsightly and badly decayed and, of course, threatened the sound teeth. Neither the teacher's pleadings

nor the mother's authority were effectual in securing the extraction of these teeth. Strategy, however, conquered. The little girl was so bright in arithmetic that she had not during the term passed in a paper in which all the examples were not done correctly. I commented on this and then said, 'I am going to give you an example in subtraction for your home work tonight. It is a hard one and I just guess you can't get it right.' 'Yes I can', said the child, confident in her record. 'All right', I said. 'Count your teeth and see if you can subtract the right number to leave twenty-four, just what you ought to have.'

"The next morning the child proudly showed the correct answer. The two unsightly teeth had been 'subtracted'.

"And so by one means or another, almost every child in this room has sound teeth and has formed the habit of caring for them, is ready to give the 'clean' smile."



### Some Lessons from a New York Fire

**H**OW many ever paid a visit to the engine house, or saw the firemen on their way to a fire or saving a burning building? What kind of men must firemen be? (Well-grown, strong and brave and have good lungs.) How many boys think they would like some day to be a fireman?

A short time ago there was a fire, not a very large one, in New York City, but when the firemen went into the thick smoke to carry the hose where they could play the water on the fire and put it out, their lungs were so weak the men felt as though they were smothering; they got frightened, forgot their duty and actually dropped the hose and tried to run away. But because they lost their heads and because their lungs were not strong enough to stand the strain, several of them were suffocated and so lost their lives.

Now I suppose you have heard of many fires but you never heard of anything like that happening. What do you think was the trouble? I will tell you.

It seems that a number of boys in New York begin to smoke cigarettes when they are quite young and as it hurts their lungs, their blood can't be well purified and so they do not always grow to be so large as they really ought. Some of these become firemen, such poor ones that Chief Croker, so the papers say, complains that the "cigaret-smoking, weak-lunged, under-sized firemen" injure the service of the whole fire department. Men in other kinds of business also complain that cigaret smokers are not good, reliable workers and some will not hire them at all.

What is the reason that boys who smoke cigarettes are not so apt to be strong and healthy and get their full growth? Let us see.

By questioning recall the simple lessons already learned showing that the blood is the life of the body; that it is constantly becoming impure and must be cleansed; that it is the work of the lungs to purify the blood by means of the oxygen in the fresh air we breathe in and, hence, of the great importance of pure air. Emphasize anew the trouble that is likely to come from trying to repair the body and especially to help it to grow large when the blood is impure.

Who has ever accidentally breathed in smoke? How did it make the nose and throat feel?

Let us make an experiment to see what might happen in the thousands of tiny cells of the lungs when smoke is breathed in.

Have ready a small egg-shaped wire frame such as may easily be made by bending two 14-inch wires and tying them where they cross at the top. Around and over this gather with the hand an old thin white handkerchief on which with a blue pencil you have sketched the venules and with a red pencil, the arterioles. Tell the class that this will roughly represent one of the many thousands of collapsible cells which together with the bronchial tubes compose the lungs. Recall the extreme delicacy of these membranes and the fact that the purity of the blood depends upon the way they do their work.

Carefully burn one or two matches (enough so that the handkerchief will show discolora-

tion from the soot) under the opening at the bottom. The smoke will rise almost immediately and pass through. Explain simply that just as the smoke is passing out through the pores of the cloth, the fresh air is flowing in; that in much the same way the membrane of the tiny lung cell ordinarily allows the oxygen in the pure air we breathe in to pass through to the blood in the tiny tubes surrounding each cell; the impurities pass back into the cell and we breathe them out. Smoke is irritating, poisonous air containing soot.

It is easy to see how bad it would be for the delicate air tubes and cells and worse still for the blood all over the outside waiting to give up its impurity and receive in exchange the oxygen. Show the soot collected inside of the handkerchief. The cell is irritated and becomes somewhat clogged by the soot. The poisoned air of the smoke now goes right into the blood in the tiny tubes, poisoning it instead of properly purifying it.

Breathing thick smoke for a few minutes might suffocate one as it did those firemen.

What happens sometimes when gas pipes leak a great deal or when people ignorantly blow out the gas instead of turning it off? When people have to breathe air which has been breathed over and over by others as they did at the "Black Hole" at Calcutta? Or when miners are forced by accidents to breathe foul air? What in every case was the reason for these deaths? We see that whenever the blood cannot be purified death comes.

Suppose people in any of these cases did not breathe too much poisoned air at once or breathed less poisoned air for a long time? Always they fall quite ill or feel sick or wretched or not like work.

Suppose again that it was growing children who had to breathe very impure air for a long time, what serious effect would it have on them?

Think separately of all the parts of a child's body that have to be kept in repair and constantly made larger—the bones, the muscles, the heart and arteries, the stomach, the liver, the lungs, even the skin, and, most important of all, the brain and the nerves—all these depending every minute on the purity of the blood for their power to grow strong and healthy.

We can readily see that children whose blood is poisoned instead of purified cannot grow so well and are always likely to be undersized as many of the cigaret-smoking firemen were.

Bearing in mind how the smoke from ordinary combustion drawn into the lungs irritates and clogs the air passages and cells and its poisonous gases pass into the blood, poison-

ing it and hence all parts of the body, let us imagine what the effect would be if a boy breathed in such smoke for several moments from one to twenty times per day. Suppose again that instead of common smoke he inhales cigaret smoke in that way. Isn't it reasonable to suppose that inhaling cigaret smoke would be much more harmful, for here we have the narcotic, nicotine?

Compare nicotine with common poisons such as arsenic, strychnine, and prussic acid, showing by illustrations that its virulence is equal to the last. The boy can readily see for himself how powerful it must be when it can bring on the dreadful nausea and collapse so soon after the novice smokes and how quickly even those habituated feel its narcotic effects. Point out the ease with which it is set free in smoking and, accordingly (since about fifty per cent. of what was originally in the cigaret, cigar, or pipe is in the smoke) some traces, more or less, according to the strength of the tobacco used, are always to be found in the smoke. See that the class has the mental picture clearly defined; this virulent poison, in very small quantities, it is true, else death might ensue, passes directly into the blood which carries it swiftly to all parts of the body and the red blood cells are so affected that they cannot carry so much oxygen.

What kind of a poison is nicotine? If it is a narcotic, what special organs would it affect? If the brain is affected, what results to all the other organs governed by the brain? Show that all would act less strongly because the nervous current would be weaker. The great nerve controlling the heart, is especially harmed and does not keep the heart beating so strongly and steadily. Can you think of any reason why habitual cigaret smokers do not have good "wind" enough to enjoy athletics and excel in them? (Both lung and heart action are below par.)

But this is not the worst of the story. The brain and nerves are growing, or ought to be, just the same as the other parts of the body. If they have poisoned blood instead of that which is pure, what would be the effect on the growth of the brain and so, on the man's mind?

Upon what do we depend for the ability to learn our lessons? Why, then, do cigaret smokers often fall behind in their lessons?

What is the nature of all narcotics? What is the reason the boy who begins by smoking once in a while, soon smokes every day and often becomes a "fiend?" Be sure to emphasize the habit-forming power of narcotics showing that by its effect on the brain it makes a craving for itself, while at the same time it makes one lose the power to say "no" and stick to it.

## THE CAMEL'S NOSE

By Lydia H. Sigourney

**O**NCE in his shop a workman wrought  
With languid head and listless thought,  
When, through the open window's space,  
Behold, a camel thrust his face.  
"My nose is cold," he meekly cried,  
"Oh, let me warm it by thy side!"

Since no denial word was said,  
In came the nose, in came the head;  
As sure as sermon follows text,  
The long and scraggy neck came next;  
And then, as falls the threatening storm,  
In leaped the whole ungainly form.

Aghast the owner gazed around,  
And on the rude invader frowned;  
Convinced, as closer still he pressed,  
There was no room for such a guest;  
Yet more astonished, heard him say,  
"If thou art troubled, go away,  
For in this place I choose to stay."

O, youthful hearts to gladness born,  
Treat not this Arab lore with scorn;  
To evil habits' earliest wile  
Lend neither ear, nor glance, nor smile;  
Choke the dark fountain ere its flows,  
Nor e'en admit the Camel's nose."

## Lessons in Habit Building for Little Folks

**A**FTER reading the poem, "The Camel's Nose," to the children, ask them to reproduce the story in their own words. Discuss it a little. What was the man doing? (Bring out the thought that he was about his regular work as they might be.) Did he think the camel's request of any special importance? How did the owner feel when he saw the camel wholly inside? What did the camel say when the man wished him to go? How would the camel's staying affect the man's carrying on his business successfully?

Mention some bad habits that may hinder one. Refer to such as carelessness, inattention, unpunctuality, bad language, or others that may touch the class more nearly.

Who knows of some serious consequences that have come from some of these? Speak of accidents in the streets because of carelessness in dropping banana skins, papers, etc.; and of railroad disasters and even of battles lost because somebody was late. Point out as well that while these more serious consequences were occasional, the simpler ones are constant hindrances to our doing our best work.

In what ways are habits like the camel? Lead the children to see clearly (1) that habits are formed little by little as the camel worked his way in and that when one permits himself to do a single unwise or wrong thing it may begin an unfortunate habit; and (2) the great difficulty of getting rid of a bad habit once it has got settled. Like the camel it says "Here I choose to stay." Tell the children that next lesson you will tell them an American story.

Write the poem on the black-board and let the children copy it as a part of their busy work. Later have them commit it to memory and occasionally refer to it when a child is seen to be forming an undesirable habit.

## PART II.

WE spoke yesterday of habits like carelessness and the use of bad language, but there

are other habits which are harmful as well as hindering, and which are much more difficult to break. Today I will tell you an American story and you may watch to see in what ways it is like the Arabian story.

## AN AMERICAN STORY

ONE DAY a man who was a good workman and well liked went out to lunch with a shopmate. His mate offered him a glass of beer. He said it was a safe and pleasant drink and so without thinking much about it our workman drank it. Other days came and sometimes he ordered a drink for himself as well as drank with the others. At first he did not notice that it made any difference with his work or with his health. Soon he was in the habit of taking a glass of beer every day; then of taking two glasses and after a time of taking several. It was easy then to drink stronger liquors and he often used whiskey.

But now he began to see that he was not getting along as well with his work. He could not do as much nor do it as well and the superintendent threatened to discharge him. He was often sick, too. He lost many friends and things went from bad to worse. At last he understood that the alcoholic drinks were doing him great harm and he decided to stop using them; but when he tried to stop it seemed almost impossible. The craving for the alcohol seemed to say to him, "You have let me come in and now I choose to stay."

(Note. If cider or wine is the lighter drink most familiar to the children, substitute it for beer in the story. If desired a similar story of how a cigaret user formed the habit may be used and the lesson developed along that line.)

In reproduction and discussion see that the children note that: the man was about his ordinary business; he did not think it could do any harm to take one drink; like the camel, the habit came in a little at a time and like it, after a time it hindered the man, crowded out the good things. It impaired his work, in-

jured his health and lost him his friends. The beer led the way to the strong liquor, and the habit was terribly hard to get rid of.

Explain in simple language why the beer (or wine or cider), which at first seemed harmless, could cause a dangerous habit, showing that it is because it contains the poison, alcohol. Alcohol if taken often, even in the small quantities found in these drinks, is very liable to harm the health though we may not notice it for some time; and it is the nature of alcohol to make one want it more and more until sometimes he cannot stop at all.

Emphasize the danger of beginning to use alcoholic drinks for these reasons. Have the children write a little composition of very simple statements showing how the drinking habit was like the camel and, why one ought not to drink beer, wine or cider, and, of course, ought to avoid the strong liquors.

*"Every time that we yield to temptation  
It is easier for us to do wrong;  
Every time we resist temptation  
It is easier for us to be strong."*

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## Resistance to Alcoholism

**D**R. PREISIG of Cery-Lausanne, Switzerland, has communicated to *L'Abstinence* (Oct. 1910), the results of some observations he has been making in regard to the family history of those who have much and those who have little resistance to alcohol. He endeavored particularly to collect information about robust drinkers who "carry" wine well and have become advanced in age without suffering from nervous attacks, especially delirium tremens.

The study of the ancestry of these cases seems to explain their comparative immunity. It is found that drinkers who are attacked by epilepsy, delirium tremens, etc., are generally sufferers from hereditary nervous troubles. In most of these cases the father has been a drinker. The drinker who becomes delirious and is put in an asylum is oftenest an alcoholic of the second generation.

Dr. Preisig is of the opinion that alcoholics who bear alcohol well have descended from healthy and sober parents. He endeavored to find as large a number of these cases as possible, but they proved to be quite rare.

He is endeavoring to increase his list by appealing to all who know such cases to send him information concerning them which he will treat as confidential.

He has already information which shows clearly that resistance to alcohol diminishes with the generations of drinkers.

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“ Not with all our strife and pain  
Shall you and I attain  
To behold that end we long and pray to see ;  
But we know that though we die,  
The end cometh bye-and-bye,  
And we have helped the better days to be.

“ Is not this reward enough—  
To have helped to shape the rough,  
To have made the toilsome way a little clear ;  
To have fallen in the van  
(Though but one forgotten man)  
Of the army that is bringing the New Year.”

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# Scientific Temperance Journal

Vol. XX

BOSTON, DECEMBER, 1910

No. 4

## The Heart of Christmas

By Celia Tharter

THINE own wish wish I thee in every place,  
The Christmas joy, the song, the feast, the  
cheer :  
Thine be the light of love in every face  
That looks on thee to bless thy coming year.  
My own wish wish I thee—what dost thou crave?  
All thy dear hopes be thine whate'er they be.  
A wish fulfilled may make thee king or slave,  
I wish thee wisdom's eyes wherewith to see.

Behold, she stands and waits, the youthful year ;  
A breeze of morning breathes about her brows ;  
She holds the storm and sunshine, bliss and fear,  
Blossoms and fruit upon the bending boughs,  
She brings thee gifts. What blessing wilt thou  
choose ?  
Life's crown of good in earth or Heaven above !  
The one immortal joy thou canst not lose  
Is love ! Leave all the rest and choose thou love.



## The Physician's Standpoint

By P. LIGON HENDERSON, M. D.

[“It cannot be denied that the general trend of medical opinion is adverse to the employment of alcohol and this change of front is plainly shown by the fact that hospitals use far less alcohol than was formerly the case.—Editorial in *Medical Record*.]

**I**N this age of scientific progress we are confronted by many problems the proper solution of which requires more careful thought and painstaking investigation. ....

There is not one before us today that is viewed with as much concern as the alcohol problem, not even the problem of tuberculosis. From a moral, economic, sociologic, scientific, medical and public health point of view, the alcohol problem is one of the most vitally important unsolved problems of the world today.

Every advance in the scientific study of disease and degeneration points unmistakably to alcohol as one of the most potent agents in the diseases and destruction of the human race. Scientific studies of the causes of accidents, injuries and the great forces of heredity, bring out this same fact in greater prominence, that alcohol in some form is the most influential factor of these losses. ....

Public opinion demands, and has the right to demand, that the action and influence be determined and settled by the medical profession, and that we teach the people the truth fully, conscientiously and fearlessly. When physicians take hold of the question in the same spirit they have shown concerning yellow fever, smallpox, malaria, tuberculosis, instead of treating it as a moral question and leaving it to clergymen, temperance workers and reformers, we may expect better results. More may be accomplished by teaching the people the truth in regard to the fatal effects of alcohol upon the mental and physical efficiency than by expatiating on the moral wick-

edness of drinking and I would not undervalue the latter.....

One little incident in connection with the London Congress deserves special mention, showing the ingenious methods to which the liquor interests will resort to carry their point. It is this: each member of this Congress received two bottles of Tokay wine with the compliments, apparently, of the Hungarian Minister of Agriculture. In reality it came from the wine-grower's association and had a certificate from the minister that the product was pure. Accompanying this present was a very attractive booklet giving great prominence to the value of this wine and calling the doctors' attention to its medicinal power.

A circular letter protesting against this was issued, signed by Sir Victor Horsley of England, as president, and more than fifty leading English and Continental physicians, denying that alcohol had any value and considering it an insult to be advised concerning the value of spirits or wines in any form. This letter urged members not to accept this present and thus become a party to an iniquitous delusion which every scientific study and clinical experience had flatly contradicted.

This created quite a stir and the wine dealers tried to take advantage of it for advertising purposes by a canvas among the leading physicians to secure their endorsement. To their great astonishment nearly every leading man refused to be interviewed or to commit himself to the endorsement of wine as a medicine.—*Kentucky Medical Journal*. (June 1, 1910.)

## One Physician's Remedy

BY FREDERICK PETERSON, M. D.

Professor of Psychiatry, Columbia University

**T**HIRTY years ago physicians were rather promoters of the use of alcohol both as a stimulant and as a remedial agent. Now everywhere on both sides of the Atlantic medical men are foremost opposers of the use of spirituous liquors as a beverage or even as an agent in the treatment of disease. They have been living rather securely in the tradition that alcohol had always been with them and that most peoples who had reached the crest of development had been free users of wine and beers and that if alcohol carried with it any peril to the race, mankind would have degenerated long ago.

Close historical study shows that drinking was not so widespread in ancient days as now. The liquors contained less alcohol and having no ice machines they could not brew beer all the year around. The strong drinks, whiskies, brandies, cocktails, bitters and absinthe had not been invented. Without railroads and without bottles there was less distribution.

With the wider diffusion of the idea that alcohol was a food, drinking became more general and alcoholism more noticeable. With the tremendous awakening of science in the latter part of the nineteenth century, and with the extraordinary progress of the science of medicine, it was natural that alcohol should have its share of investigation.

The facts which have been borne in upon medical men by such studies are overwhelming and physicians are just beginning to understand how much responsibility rests upon them for the abatement of this evil.

All physicians are familiar with the large catalogue of physical disorders directly due to alcohol, such as cirrhosis of the liver, dropsey, multiple neuritis, heart disease, Bright's disease, inflammation of the stomach, arteriosclerosis, delirium tremens, wet brain, and the like. The number of these cases is constantly increasing. Between 20 and 25 per cent. of all the insane owe their insanity to alcohol....

In answer to the question what had best be done for the prevention of alcoholism, Dr. Peterson thought that a campaign of education such as was being carried on in the fight against tuberculosis was the only efficient method of warding off the evils of drink. He advised having printed in brief form all the facts on this question which the medical profession now has at hand. In Paris they have statements regarding the dangers of heavy drinking, printed on posters and put up in

every ward and waiting-room of every public hospital and printed on every prescription blank of the Paris hospitals and dispensaries.

Dr. Peterson asked why our public spirited citizens should not join in such a crusade. Children should be taught these facts in the schools. Every hospital and dispensary in the country should begin a similar method of disseminating them. Our asylums for the insane and epileptic ought to print the statistics of alcohol as a cause of insanity and epilepsy on every letter sent out. There are many shopkeepers, owners of department stores, druggists and others who would be willing to have instructions printed on their wrapping paper. Indeed such facts should be kept as a standing advertisement in many of our newspapers with wide circulation.

He had himself tried the experiment of printing them in briefer form on his own prescription blanks and wished that the 132,000 other physicians in the United States might be induced to aid the movement to this extent, for they knew better than anyone else the fearful ravages of alcohol.—From the *Medical Record* (June 11, 1910).



## Epilepsy Caused or Augmented by Alcoholism

**T**HE *Deutsche Medezinalzeitung* (April 2, 1910) contains a review of two articles on the connection between alcohol and epilepsy, and another (Roemer) containing the statement that the effects of small doses of alcohol consist in a strikingly active increase of irritability and motor excitability which is typical in persons having a tendency to epilepsy.

One of the other authors, Dr. Mino Randella (*Archives di Psichiatria*, 1908) says that the connection between alcoholism and epilepsy is not denied. The only point is that there is not unanimity of opinion as to whether the abuse of spirits causes an attack directly, or is a contributory cause. The intolerance of epileptics toward alcohol is well known; from this one may say that alcohol has a predisposition for epilepsy; and on the other hand this intolerance can be taken as an acquired influence of the cerebral process so that the factors to be taken into account in epilepsy are: The original cerebral abnormality, the alcoholic intolerance, and alcohol.

## A Survey of the Field

By E. L. Transeau

Recording Secretary of the Scientific Temperance Federation

The following articles together with others appearing elsewhere in this number of the *Journal* give a partial presentation of the discussions relating to the beverage use of alcohol that have appeared in medical journals during the past year. They were taken from the forthcoming annual report of the Scientific Temperance Federation.

THE medical and scientific literature of the year has contained a large number of articles on the various phases of the physiological relations of alcohol, a larger proportion than usual being by American physicians who not only show an increasingly definite knowledge of the subject, but frequently sound the note of professional responsibility.

Articles touching only the "academic" or theoretical phases of the action of alcohol are of little or no importance to the sociological side of the question. But those which verify, condemn, or throw new light upon the opinions which influence human action with reference to the beverage use of alcohol, are of great sociological importance. It is the progressive aspects of these subjects with which temperance workers must keep informed.

To quote even a few lines from all the authorities at hand would be impossible in the space available and it seems best at this time

to quote the more important and typical ones at greater length, omitting a number which cover the same ground.

The principal physiological connections involved in the beverage use of alcohol are the following:

I. The supposed harmlessness of the moderate use of the weaker alcoholic liquors.

II. The supposed beneficial effect of alcoholic drinks, beer, ale and wine especially as an aid to digestion.

III. The belief in the stimulating effect of alcohol upon weak heart action, in states of fatigue or lassitude.

IV. The belief in the stimulating action of alcohol upon the brain and hence its value in obtaining greater mental power or brilliancy for exacting brain work, or for enjoyable social intercourse.

V. An exaggerated idea of the value of alcohol as a medicine in debility or sickness. (See pp. 49-50.)



## A Consideration of the Effects of Moderate Drinking

### Moderation Detrimental to Highest Efficiency

THE actual or reputed presence among us of the wine or beer drinking octogenarians apparently in perfect health, and the difficulty of producing visible evidence of physiological injury from moderate drinking has given much encouragement to the defender of such use but in addition to the unequivocal story the life insurance tables tell an unanswerable argument against him is the proof of greater physical efficiency obtained by abstinence among athletes.

Thus, Dr. Flade of Dresden in reviewing the alcohol literature of 1909, mentions the increasing emphasis laid upon abstinence in athletic training. "From the nature of alcohol," he says, "it is clear that its use, especially its habitual use, even in small quantities, renders difficult or impossible the highest physical efficiency and endurance."

Undoubtedly this emphasis is still more marked in America than in Europe. The *Boston Medical and Surgical Journal* (May 5, 1910) commenting editorially upon the Marathon Race says: "The fact that none of the contestants used alcohol during the race, and

that all but one finished in good condition, is another evidence that alcohol diminishes rather than increases bodily endurance and capacity for work, since in former years runners who have used alcohol have been the first to give out."

But it is not alone in the events and in the actual training that alcoholics are seen to be injurious to highest efficiency. We read the statement of Connie Mack, manager of the Philadelphia Athletics, winners of the international championship; "Alcoholism is practically eliminated from base-ball." He says further that of his wonderful team of twenty-five players, fifteen do not know the taste of liquors and the few remaining are practically abstainers.



### Impairs The Highest Mental Faculties

INDULGENCE in alcohol in very small quantities," says Prof. Kraepelin in a recent volume of lectures<sup>1</sup>, "immediately weakens the power of resisting temptation. We all know that nobody sits down to get drunk, but that under the influence of the first

few glasses self-control is more and more completely lost."

An editorial in the *New York Med. Record* (May 8, 1910) said: "Many authorities hold that total abstinence from beverages of a stimulating character is the most healthful procedure for every one, and especially so for brain workers. "Sir Victor Horsley," the *Record* continues, "the well known British authority on brain surgery, has frequently voiced his views that under any condition alcohol is a veritable poison, and there are many more men of the highest scientific rank in all civilized countries who are of the same opinion."

The damage done by amounts too small to cause definite changes in structure is pointed out by A. W. Ives, M. D.,<sup>2</sup> who says: "Even where, due to alcohol there is as yet no such demonstrable change, there is a disturbance in the cranial circulation and a drug effect causing defective cerebration, loss of will power, loss of the power to think and judge up to one's normal; there is a reduction of intellect. There generally is, however, increased gullibility, loquacity, and a well recognized inability to judge of just the impression one is creating, of the kind of an exhibition one is making of himself. A drug that can bring a brain's function to the point of coma, cannot, even in mild doses, add anything to the power of that brain. .... It decreases one's capacity for mental and physical work."

Evidence against the supposed stimulating effect of alcohol upon brain function is furnished by one of the important researches of the year,—a test of the effect of alcohol on memory carried out by Dr. R. Vogt,\* of the University of Christiana, Norway. He practised memorizing twenty-five lines of the *Odyssey* sometimes with and sometimes without taking alcohol in doses of from 15 to 25 grams. Most of the experiments were made a few minutes after breakfast, before taking up his regular work. In every instance it took him longer to memorize the twenty-five lines after he had taken alcohol than on the days when he did not use it.

A few of the experiments were performed before breakfast, and in these the effect of the alcohol was much worse than in the experiments made after breakfast. Fifteen grams of alcohol, the amount in between one and two glasses of beer, had a worse effect taken before breakfast than thirty grams, the amount in three glasses of beer, taken after breakfast.

Another set of tests was on the ability to relearn, after an interval of about 100 days,

1. *Lectures on Clinical Psychiatry* (p. 173).  
2. *Detroit Med. Jour.* (June, 1910).  
3. *New York Med. Journal* (Oct. 8, 1910).  
\* *Norsk Journal of Medicine* (No. 6, 1910).

the sections previously learned. It took longer to relearn the passages originally committed on the alcohol days, showing that the original impression on those days was less strong.

That social drinking is a handicap instead of an advantage to social intercourse is the opinion of Prof. Max Mayer of Columbia, Mo., a native of Germany. He says it is ridiculous to affirm that the American who does not drink deprives himself of any of life's enjoyment. He satisfies his social needs by substituting for the drinking customs of Europe, social, intellectual and aesthetic acquirements, and that this signifies no loss of life's enjoyments, but an indisputable progress in civilization.—(*Der Abstinent*, Feb., 1910.)



### Alcohol as a Cause of Sickness and Mortality

A REPORT on the causes of disease in the local sickness societies of Leipzig and vicinity was recently published by the house of Karl Weymanns, Berlin. The investigation from the records of the sickness assurance association, begun in 1903, covered nearly a million cases of men and more than a quarter of a million of women. An appendix treated of the cases of alcoholism. Only those recorded as topers, dipsomaniacs, cases of delirium tremens and alcoholic insanity were included in the class, which left many immoderate drinkers in the general class. The ages of this class ranged from twenty-five to thirty-four years, but the number of days they were sick and unable to work was two and one-half times that of the general class. Their physical condition was worse than that of old men over seventy-five years of age in the general class.

Besides the large number of brief sicknesses they showed a far higher number of long continued diseases than the general. The mortality was correspondingly higher. There was, moreover, a larger record of accidents.

There was also much greater frequency in change of working places and kind of occupation among the 630 men alcoholics investigated. They averaged five different occupations and only 585 days in each.—From the *Hygienische Rundschau* (July 1, 1910).

#### IMPAIRS ABILITY TO RESIST DISEASE

A statement concerning the harmfulness of small amounts occurs in an article by Dr. Moses Kreschner, visiting physician to the Brooklyn city prison<sup>3</sup> who quotes Prof. Rosenfeld, of Breslau, as follows: "Alcohol lessens the power of resistance in the acute infectious diseases. Even its moderate use has a bad ef-

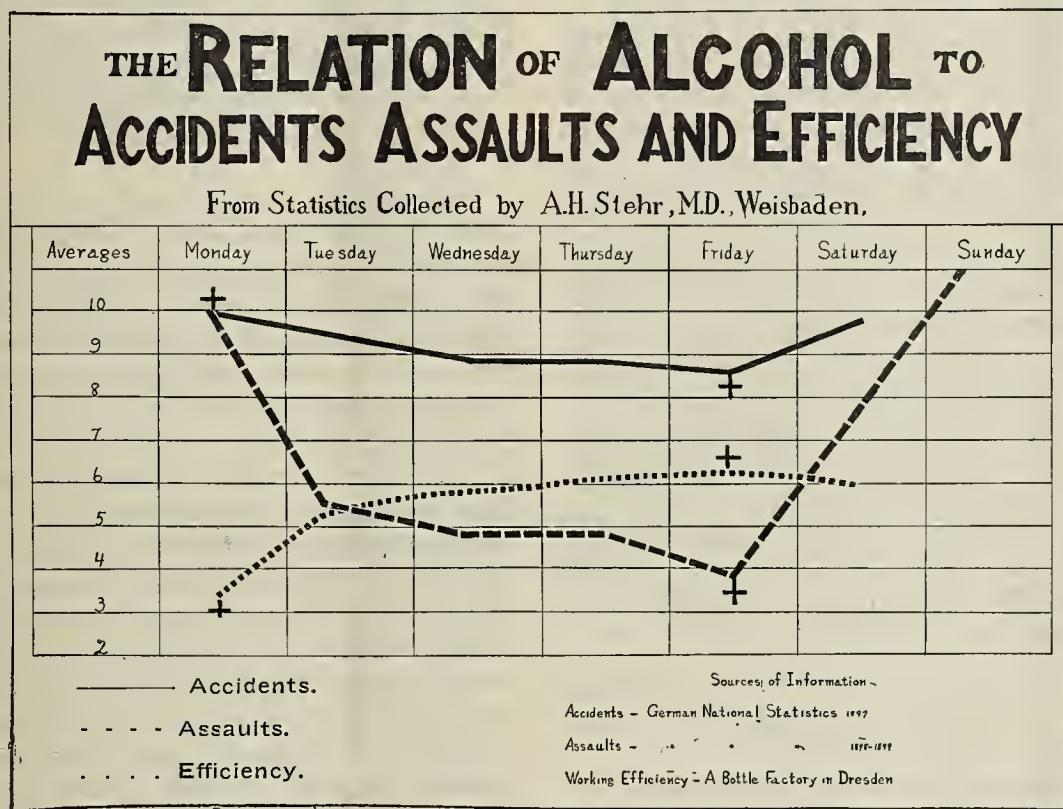
fect on the heart and kidneys; congestion of stomach and bowels are produced by it; the effect on functional and organic diseases of the nervous system is uniformly harmful; it is a potent factor in the production of arterial sclerosis, gout and obesity."

An incident showing that alcohol lowers the power of the body to resist some diseases without affecting the defence against others was brought out in the course of experiments by Drs. Abbott and Gild.<sup>4</sup> Three rabbits that had received alcohol and showed a marked lowering of resistance, as indicated by the opsonic index, resisted the special disease germ with which they were inoculated as well as the controls that had received no alcohol. But all three were taken ill within three days of the time the alcohol was begun

tal at Molokai, that the use of alcohol by the natives is largely responsible for the leprosy occurring among them.<sup>5</sup>

Dr. Wm. L. Reid<sup>6</sup> cites the statistics of the benefit societies. The abstainers and the moderate drinkers are kept in separate sections, and the latter must be *temperate* or they are not admitted to membership. These societies are obliged to render reports to the Government and such returns show an average of 19 days of sickness per year for the non-abstaining or moderate drinkers, against 14 days or less for the abstainers.

Dr. Reid quotes this significant passage from Dr. Buchner, professor of medicine in Munich University. "Alcohol kills the largest number of victims by ambush as it were, in that it undermines the power of resistance to



Note rise and fall in connection with special drinking days, Saturday and Sunday.

and all died between that time and the twelfth day. At autopsy they were all found to have had a septicemic infection, with some involvement of the lungs. Eight other animals in the same room receiving attention from the same attendant and differing from the three animals noted above only in not getting alcohol, showed no disturbance whatever in their general condition. The low opsonic index demonstrable in each of these fatal cases may have indicated a lowered resistance to the particular infection accidentally acquired by these animals.

Press dispatches from Honolulu announce that Dr. Walter Brinkerhoff has expressed the opinion, based on his observation for the last four years at the leprosy experimental hospi-

sickness, so that the apparently quite temperate drinker succumbs to a lung inflammation or an infectious disease which the sound normal body easily overcomes. But what the physician most fears in alcohol is chiefly the injuries to the nervous system and the intellectual powers."

Increased susceptibility to lead poisoning is another charge against moderate drinking now frequently brought forward. Richard Müller in a prize essay on lead poisoning published in Jena (1908)<sup>7</sup> condemns the use of alcohol in any form, even in beer, by those engaged in lead industries.

4. Medical Bulletin of Univ. of Pa. (June, 1910).
5. Jnl. Am. Med. Assn. (Aug. 6, 1910).
6. Glasgow Medical Journal (Sept. 1910).
7. Hygienische Rundschau (Mar. 1, 1910).

## What is the Harmless Quantity?

The supposition that the moderate use of alcohol is not harmful implies a limit somewhere between the immoderate amount which is conceded to be harmful and the moderate amount which is supposed to be uninjurious. Dr. Gustav Kabrhel of Prague has written an exhaustive review<sup>8</sup> of all the means of determining the moderate dose that could be used without dangerous consequences and concludes that the problem is not solvable.



## Where the Harm May First Appear

Prof. Kabrhel has, furthermore, found anatomical evidence of disturbance in the germinal cells of parents whose moderate use of alcohol showed no injury to general health.

This is similar to the report of microscopical findings published last year by Prof. Bertholet of the Pathological Institute of Lausanne.<sup>9</sup> He made post mortem microscopic examinations on seventy-five men who had died between the ages of fifteen and ninety-one, thirty-nine were known to be victims of chronic alcoholism. Some degree of atrophy was found in the germinal glands of all but two cases. The most marked changes were found in those alcoholics who had died of tuberculosis or liver cirrhosis. Complete atrophy was found in one drinker only twenty-four years old. In other cases where the atrophy was not so pronounced, isolated cells here and there were attacked. While some changes could be detected in the non-alcoholic subjects, extended and premature atrophy was found only in the alcoholic.

Medical opinion as to the evidence of hereditary effects of alcohol is strikingly presented in the words of Dr. H. M. Lee<sup>10</sup>:

"It is getting so that when as physicians we see the neurotic child, the various tremors and evidences of an incoordination, epilepsy, the question arises how much is rum back of this, or fast life and enfeebled sexual powers."



## The Effect Upon Digestion

An important fact concerning the supposed aid furnished by alcohol to digestion is brought out by Dr. Nellis B. Foster.<sup>11</sup> Referring to the dogs used for gastric experiments in the Pawlow laboratory, he says:

"If alcohol be mixed with the food of these dogs, there is an increase in the amount of gastric juice beyond what is found in control dogs with the same diet. But if the alcohol be given several days in succession there is a prompt falling off after a few days in the

amount of juice secreted. The conclusion at which one would arrive from this experiment is that the initial stimulation of the gastric glands caused by alcohol is followed by a period of diminished irritability to this stimulus, and such an idea is quite in accord with general physiological principles."

Dr. W. Eisenhardt of Berlin, investigated the digestive function in a large number of chronic drinkers and found only one case in which the process was normal.<sup>12</sup>



## Where the Food Value Theory Stands

Various opinions are still held as to the food value of alcohol. But an increasing number hold views like the following:

"While alcohol is capable of being oxidized in the body, it cannot be considered a food for it is capable of replacing the hydro-carbons only to a very limited extent. In fact, alcohol cannot be considered as a food."—Dr. E. R. Zemp.<sup>13</sup>

"Alcohol is considered a food-sparing agent by some observers, its value corresponding with its energy-producing equivalent of pure food hydrocarbon. This presupposes, however, that alcohol is used by the tissues in the same manner as these hydrocarbons—merely because its oxidation liberates energy in the form of heat. But this is a fallacious idea; alcohol only simulates normal oxidation; far from being the product of cellular exchanges which constitute the vital processes, the heat it liberates is at the expense of the tissue, since by becoming oxidized itself, especially in the liver whereby the body is protected against its toxic effects—it uses oxygen intended to sustain tissue metabolism. If alcohol were a food, large doses would prove more profitable to the organism than small ones; but the reverse is the case; large doses check all activities that would be enhanced by a liberal use of food. The debilitating action of alcohol on the nervous system, for example, has been demonstrated by Bunge, Schmiedeberg, Ach and Kraepelin and others, while Dogiel found that it markedly depressed both motor and sensory nerve centres. It does this not only with nervous tissue but with all tissues. A depressing agent cannot logically be regarded as a food."—Dr. Chas. E. de. M. Sajous, Prof. of Therapeutics in Temple University, Phila., Pa.<sup>14</sup>

8. *Hygienische Rundschau* (May 15, 1909).

9. *Zentralblatt f. allg. u. pathol. Anat.* vol. XX.

10. *N. Y. Med. Jour.* (Sept. 15, 1910).

11. *Medical Record* (Aug. 13, 1910).

12. *Zeitschrift fur Physikalische und Diatetische Therapie*.

13. *N. Y. Med. Jour.* (Mar., 1909.)

14. *Monthly Cyclopaedia and Bulletin* (July, 1910).

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"The Christ-child comes with soft light feet  
To touch earth's paths and make them sweet.  
Where'er those shining footsteps fall,  
New hope and light are over all.  
New love springs up beneath their tread;  
New glory on the old is shed.  
And whoso follows where they go,  
Tastes a deep joy no others know."



## One Antidote for Pessimism

**I**N the swift changes in social and business customs, the transformations often come so quietly that their full meaning is only partly recognized.

Mr. John Graham Brooks, in his recently published life of W. H. Baldwin, Jr., touches upon one of these changes in relating Mr. Baldwin's experience with the drink habit among railroad men when he entered the railroad business in the eighties. He found that the men "dropped into the saloon to drink or to treat each other during working hours. They took away a pint bottle of whisky to use on the train, along the track, or in the shops. Every now and then it brought mischief, a quarrel, a blunder, slovenly work, and always the possibility of something worse."

Recognizing these conditions, Mr. Baldwin undertook first to provide a place where men might find recreation and opportunity for social intercourse other than the saloon, and having done this he felt he might justly require, and in the requirement secure the co-operation of the men, that drink should not be used while on duty, because of the common danger to the public and to trainmen in drinking during service.

"All this," comments Mr. Brooks, "has become the merest commonplace of railroad management, but it was not a commonplace at that time," twenty-five years ago.

Among many railroads, there has been advance beyond even this position taken by Mr. Baldwin, in recognizing the fact that the effects of drink taken while off duty do not im-

mediately pass off, and therefore, that entire abstinence is necessary for the man who has to do with the managing or dispatching of trains; in other words, that the railroad man is always on duty.

One economic revolution like this in a quarter century though not yet completed helps serve as an antidote for any temporary pessimism over the slow progress of the reform.



## When Evolution Begins

**I**N his address at Cairo, Egypt, Mr. Roosevelt reminded his hearers that "the training of an individual to fit him to do good work in the world is a matter of years, and the training of a nation to fit it successfully to fulfil the duties of self-government is not a matter of a decade or two, but of generations."

While it is self-evident that all real reforms come by evolution and not by revolution, and that patience with the slow rooting and growing of moral or social reform is necessary, it must be remembered that such evolution must begin sometime and somewhere. The man of this generation who shirks his duty in making some truth better known, or in contributing his quota of effort here and now to the world's betterment is by so much delaying the coming of "that great race that is to be . . . . with sweeter manners, purer laws," however much he may dream of this as somewhere in vague futurity.

The training of the individual of fifty years hence must begin with the lives and institutions of today. The training of a nation with high ideals of self-government, whatever the failures of the past, may and must begin in the nation today.



## The Inventory

THIS month, instead of the usual general articles, our columns are devoted chiefly to a review of a year's progress in scientific appreciation of the relation of alcohol to the individual and to methods of disseminating these facts. As in business, so in philanthropy, education, and reform, an annual "taking account of stock" is necessary not only for the broader outlook and encouragement it may give, but as a time of considering and revising methods of work individually and collectively in their bearing upon the world's work as a whole.

Believing that many persons, especially physicians, will be interested in a review though brief, of current medical observations on the alcohol question, this number of the JOURNAL goes to many such readers. If also interested in the work of the Federation, their cooperation is earnestly invited.

## Some Steps in Education Against Alcoholism

By Cora Frances Stoddard, A. B.

Corresponding Secretary of the Scientific Temperance Federation

HERE will be no true and lasting progress towards lessening the use of intoxicants until there is a shift of public sentiment; and that sentiment must be shifted through education, reason, logic."

### Growth of the Scientific Education Idea

This sentence quoted from a recent editorial in a Boston daily is but one of many indications of the growing public recognition of the necessity of education of public sentiment on the alcohol question, especially on scientific and economic lines.

It is true that there has been little time in the past century when some phase of education of temperance sentiment has not been carried on, yet the significance of this modern recognition of the importance of education lies in two facts: First, that it comes at a time when the struggle to legislate the evils of alcoholism out of existence is probably the most acute in the history of the battle against alcoholism, and is based upon a consciousness that legislation to succeed must be built upon and buttressed by education. Secondly, the educational aspect of this subject is beginning to command the interest, respect, and co-operation of social and economic forces which hitherto have not given either much sympathy or assistance to the temperance movement as such. Physicians, social workers, life insurance officers, magazine writers, correspondents, and editors of the public press, who are thoughtful observers of present conditions, here and there, but in increasing definiteness, are expressing their conviction as to the fundamental importance of educating the people as to why the drink habit is unsafe, and as to the feasibility of this method which has so amply justified itself in the tuberculosis and other social or hygienic campaigns.

The Provident Savings Life Assurance Society of New York has this year issued to its policy holders a health bulletin for the correction of popular fallacies in favor of drink by a plain statement of the scientific facts. *The Sunday School Times* in its last temperance number published an article by the Medical Director of the same company setting forth some of these scientific facts which he declared show "that in addition to such moral objections as may exist to the custom of alcoholic indulgence, we now have well-grounded scientific and economic reasons for condemning it."

The Associated Charities of Boston has or-

ganized a committee this year to promote popular education in these scientific facts, on the principle that "first and foremost the public must be educated as to what alcohol actually is and what its real effects are, for the real solution of the alcohol problem will come only when public opinion has been aroused to full realization of the harmfulness of alcohol."

A recent article in the *Survey* summarized the scientific facts about alcohol as already ascertained. Another, on the Social Aspects of Alcoholism in the same periodical urged a continuance of the scientific gathering of facts. "Facts," the *New York Evening Post* said, in commenting on the article, "are essential. . . . The scientific battle is but just beginning. . . . Science must lay down general laws and acquire without loss of time necessary information for the use of social workers if the whole problem is to be attacked intelligently."

A correspondent of the *New York Times* cites the work of Kraepelin and Metchnikoff as evidence that "the time is very near when science will give an unvarying answer against the beverage use of alcohol."

Another, writing to the same paper, quotes a medical statement against alcohol, saying "even if this statement is only partly true, it would seem to be wise to let alcohol alone. . . . When the leaders of medical science have published their findings, the intelligence of the people will be appealed to in the only way that will promote real prohibition."

While the Scientific Temperance Federation is concerned primarily with this education and not with legislation, it is self-evident that wise legislation will be the active expression of an intelligent people, and that for the permanent success of legislation, whatever may be the form it takes, we are absolutely dependent, upon not the sympathy of a passing sentiment, but upon the intelligent purposefulness of a people who understand the fundamental principles of the physical, moral, and social dangers in drink itself.

"Men will have the courage of their convictions, when they have convictions enough."

### An Unavoidable Issue

That this in the battlefield of the immediate future is evident from the fact that a large proportion of the millions of pages of

\*From the annual report of the Scientific Temperance Federation, 1910.

pro-alcohol literature; of the bill boards and newspaper advertising which, on their side, constitute an enormous educational campaign for drink, is especially directed to creating and deepening the idea that alcoholic beverages used moderately are not only harmless but beneficial.

The logical conclusion of this tenet as expressed last year in an address by H. O. Heinemann before the Chicago Section of the Society of Brewing Technology is that "since the temperate use of alcoholic relishes is good, wholesome, beneficial and right . . . there should be places for the public dispensing of them. . . . If the use is sanctioned the traffic must be."

It is to this end that the United Societies of Chicago are reported to have declared war upon the present temperance teaching in the schools of Illinois. According to Chicago papers, they propose to wage a fight on the present school text-books "because the word alcohol is taken to cover all drinks. When the children see their fathers and mothers enjoy these drinks," it is said, "they begin to lose respect for them. Light wines and beer are healthier than tea or coffee and, often, than the best water we can get. Beer is the national beverage of Germany, noted for its men of superb physique, its high moral standing, and its temperance."

Entirely ignoring the great educational temperance movement in Germany today in royal, official, scientific, business and educational circles, these German-Americans apparently propose to try to force upon America customs of Germany which are being vigorously combated in that very country.

### Popular Literature

Allusion was made in the last report to the importance of placing German facts from German sources in the hands of German-Americans. Since the attack on the school teaching is being made on the ground that it is anti-German, the necessity for this special German work is increasingly apparent, and we are urging it in every possible way.

Considerable German literature has been imported by the Federation for distribution in the middle West to meet this need. From a Wisconsin town came a call for good Hungarian literature. This, too, we have lately been able to supply by the co-operation of foreign correspondents connected with Austrian and Hungarian temperance work.

Six new leaflets have been published this year in co-operation with the Presbyterian Temperance Committee; others have been reprinted. An equivalent of more than 760,000

pages of literature in three languages has been published, or purchased and resold, for in this we have held to the policy early adopted by the Federation to use good material wherever found. Many thousand copies of *Alcoholism and Tuberculosis* were distributed in the churches on Tuberculosis Sunday in May.

### Literature Distribution

A beginning has been made in Massachusetts in the systematic distribution of scientific temperance literature through the year in the effort to create an intelligent public sentiment as a preliminary to the annual no-license campaigns. This is especially recommended as work entirely suitable for Young People's Christian Societies, some of whom are already organizing for this purpose.

A helpful suggestion for the individual dissemination of literature comes from the Catholic Total Abstinence Union of Ohio. In connection with the Union there has been organized what is called the League of the Cross, one feature of which is that certain members agree to distribute each year two dollar's worth of temperance literature. This is a plan that calls for no complicated organization and requires no regular attendance at meetings, but which gives one who is interested a purpose in individual work or in promoting education by literature through any organization that he may choose to ask to assist. The president of this League is heartily co-operating with the Federation in the distribution of our literature.

### Use of the Press

Educational effort is greatly multiplied by the increasing readiness of the press to open its columns to scientific facts. Hence, it is to be hoped that in the coming year we may be able to plan definitely to issue our Press Circular at regular intervals not exceeding two months. Many papers can be reached in this way that would not take mere reprints from a temperance periodical, while it is desirable that the circular be issued often enough that its facts may be thoroughly up-to-date. Though but one Press Circular as such has been published this year, we have, nevertheless, supplied several special articles for periodicals of wide circulation, and the SCIENTIFIC TEMPERANCE JOURNAL has been quoted liberally by others.

Beginning with the February number, a page or more of scientific material has been furnished the *National Advocate*, monthly, and since July the *Advocate* has also published each month about a column of information about current work of the Federation or

suggestions as to educational needs and methods.

Mr. Wright's two articles in the *Christian Endeavor World*, "How Alcohol Pulls Down," illustrated by our diagrams, brought inquiries from all over the country and from abroad.

Temperance information is regularly supplied the *Sunday School Times* under the head of "Temperance Nuggets" for the quarterly Sunday School temperance lesson, and with the new year other distinct lesson helps are also to be furnished the *Times*.

An article "Sobriety as an Asset," illustrated by diagrams, was prepared for the September number of *Physical Training*, organ of the physical training department of the International Young Men's Christian Association.

The *War Cry*, the official paper of the Salvation Army which goes all over the world, used by permission three of our scientific diagrams.

Special articles were prepared for the *Presbyterian Banner* and the *Presbyterian Advance*.

One article was written for the *Christian Herald*, one for the 1911 *Year Book* of the Presbyterian Temperance Committee of Ireland, and a comprehensive review of progress in science for the forthcoming 1911 American *Prohibition Year Book*.

The periodicals in which the special articles appeared reach not less than 1,000,000 readers.

Our exchanges show that, exclusive of our own columns in the SCIENTIFIC TEMPERANCE JOURNAL, material which we have prepared has furnished about 175 columns of scientific temperance information, appearing either as original matter or as reprints in the papers of 19 states and in Canada. There is undoubtedly much more which has not come to our notice.

### Public Addresses

During the year, 221 addresses have been given by the secretary and the assistant editor of the JOURNAL, Miss Wills. Some of these were before public schools, including high schools, which had been persistently closed to outside temperance speakers. About 3,500 young people were thus reached in one city alone. General audiences have included the National Grand Lodge of Good Templars, the New York State Woman's Christian Temperance Union, the Vermont State Sunday School Association and Grand Lodge of Good Templars, the Massachusetts State Christian Endeavor Temperance Conference, two State

No-License Conferences, the Boston Young Men's Congregational Club, churches, women's clubs, men's church brotherhoods, Sunday Schools, Christian Endeavor Societies, teacher's meetings, ministers' meetings, Young Men's Christian Associations. Mention should also be made of addresses on this subject by Mr. Magwood and Mr. Wright, besides those of Rev. E. O. Taylor. The public work has been largely done in the four states of New York, Vermont, New Hampshire and Massachusetts.

The stereopticon lecture has been frequently used. Many slides, and in some places complete sets, have been sold for use in the middle west. Some new slides have been prepared this year. Special changes desired by the International Y. M. C. A. have been made and six sets of slides with the accompanying lecture sold for use through the physical training department of the Y. M. C. A. Through the courtesy of the educational secretary of the Y. M. C. A., circulars and illustrative literature were sent by him to over 100 educational secretaries of this organization throughout the country.

### The Object Lesson of Charts

If we may judge by the demand for them, the charts continue to be a surprisingly attractive and convincing feature of the work. Practically all the public addresses have been illustrated by either some of the charts themselves or the stereopticon reproduction of them. In addition to the occasions already named under the head of public addresses, the charts were shown as exhibits at the World's Sunday School Convention in Washington, at the National Educational Association which brought, it is said, 30,000 teachers to Boston, at the National Convention of the Catholic Total Abstinence Union in Boston, at the Nebraska State Sunday School Association, the Ohio Catholic Total Abstinence Union Convention, the Delaware State W. C. T. U. Convention, the Massachusetts State Christian Endeavor Convention, New York East Methodist Episcopal Conference, teachers' institutes, and the Nova Scotia General Provincial Exhibition, where as our correspondent informed us, they were a part of "the first temperance exhibit ever held in connection with the exhibition and were highly commended in the press."

On the Pacific coast, reproductions owned by Miss Marie C. Brehm, one of our members, were used as a temperance exhibit at the State Fair at Salem, Oregon. A set is now on its way to the California State Teachers' Association where 3,000 teachers are expected, and several charts with other pedagogical matter

are a part of an exhibit on public school hygiene which is being arranged by the Boston public schools.

In addition should be mentioned short-time rentals of the charts for a great variety of purposes. The demand has been so great that although we now have nearly four full sets it has frequently been difficult to keep enough on hand for our own use in public addresses. The appreciation of their usefulness has been best expressed, perhaps, by the secretary of the Nebraska State Sunday School Association, who wrote: "You have in these a very great means of arousing interest where it needs kindling, and of quickening and deepening interest in the minds of thoughtful men and women."

### Correspondence

As usual, the correspondence of the Federation has brought many inquiries for information not only about the educational resources available, but for specific data desired for addresses, sermons, and books. JOURNALS and other literature were sent to all the county superintendents of schools in Alabama for the new temperance day now legally required in the schools of that state. Suitable literature and helps were sought from several states where special temperance campaigns were in progress.

About 3,600 personal communications have been sent to correspondents in every state in the United States, to many of the Canadian provinces, Hawaii, Australia, New Zealand, Germany, Austria, Hungary, Switzerland, Bulgaria, Spain, Denmark, England, Wales, and Ireland.

### The Library

In connection with the correspondence for information the catalogued library which has been thoroughly reorganized in the last four years has been of increasing value, and every special investigation made in answer to inquiries, if material had to be sought outside, has been added and has thereby enriched it so much. The card catalog now includes between 4,000 and 5,000 indexed references.

In this connection may be mentioned the work on nearly a dozen recent school textbooks in suggesting additions or changes to ensure accuracy or adequacy of treatment of the subject of alcoholic drinks and other narcotics. This brought cordial, appreciative responses from several authors who promised changes in next editions in accordance with suggestions made, and in one instance a request that another book on the same subject be reviewed for similar suggestions.

### Affiliations

The affiliations with the National Temperance Society early in the year has brought not only increased financial strength but has opened other opportunities for work. Generous space has been given in the *Advocate* to advertisements of Federation work and literature; club rates on the *National Advocate* and *Scientific Temperance Journal* have been agreed upon and advertised in both journals. Appreciative recognition is made to the National Temperance Society for its co-operation which has so materially aided in continuance and extension of this work.

Mention should be made also of the helpfulness of officers of the Federation other than the secretaries and of other friends of this work in opening doors for service which in many cases have led to unanticipated and influential opportunities.

A report of a year's work for the sake of concreteness, must often deal largely with statistics. But statistics are of value only as interpreted in minds opened to the truth, lives touched to intelligent sympathy with the burden of misery and inefficiency entailed by alcohol on humanity and society, determination quickened to new and better service in making the truth known. The full fruition of educational work of any kind does not come in a day or in a year. It often involves not only sowing the seed but preparing the soil. It requires heavy investment of money and especially of personality.

But the outlook of educational temperance work in America was never more encouraging. It will require the just, yet sympathetic, appreciation of the scientific fact in its vital relations to individual and social welfare, the using of it without exaggeration and yet as far as its truth will warrant, the laying hold with it upon the constructive forces in youth, business and the growing sense of social responsibility.



Insanity in Germany has become so common that a German Psychiatrist (Medical Councillor Fischer) has extended insurance to insanity.

"The idea of insuring against insanity may seem strange at first sight; but insanity is not so rare and when it occurs it affects the life of the family quite as much as any other misfortune against which insurance is commonly secured. In Nuremberg there has been for twenty-five years a society that makes a business of such insurance.—*Journal American Medical Assn.* (Aug. 20, 1910.)

# Class-Room Helps

Conducted by Edith M. Wills

## Answering Eloise

FOR INTERMEDIATE GRADES

**I**DON'T see why you don't want me to drink sweet cider, Mamma," said little Eloise Maynard with an unmistakeable pout, "Jessie and Mertie drink it and they think it's just lovely. If apples are good isn't the juice good, and it looks so nice and sparkly, too. Mayn't I have some tomorrow?"

Mrs. Maynard paid no attention to the pout and with a little air of mystery said, "You needn't wait until tomorrow, my dear, for a fine little cider mill was brought into the house just this afternoon. It has two rows of nice white stones for grinders. You can run it yourself and have some cider today."

"Oh, goody, Mamma! Where is it? May I see it?"

Mrs. Maynard came over to her little daughter with a mirror in one hand and two handsome, juicy Snow apples in the other, and holding the glass before her said, "Open your mouth Eloise and see the beautiful little 'millstones'. Here are the apples for the cider. Press it out as soon as you please."

Eloise couldn't help laughing at her mother's sly joke and set the "mill" to work at once. Then her mother said, "We will take a ride over to the public cider mill tomorrow and see if we prefer to have our work done there instead or at our own mills.

The next day they took a beautiful drive of two miles over to the mill and they filled their lungs full of the crisp October air. But before they drove into the mill-yard Eloise turned up her nose in disgust. "Oh Mamma," she said, "what is that horrid, sour, rotten-appley smell?"

"We shall see in a minute" said Mrs. Maynard. Sure enough, the explanation was at hand. There were great heaps of apples, many very dirty, wormy and rotting, apples that were good for nothing else but cider or the pigs. The sacks and presses and the tubs had been used over and over without washing and they were sour and unclean. There were a few bubbles rising in the cider in the tubs under the press.

"Are all public cider mills alike, Mamma?" said Eloise slowly.

"Some cider-makers take a little more pains than others and some lots of apples aren't quite so bad as these but on the whole I think

cider mills are pretty much the same," replied her mother.

"Ugh! if that's the way it's made I don't want to drink it," said Eloise.

## WHAT THE MICROSCOPE SHOWED

"Mamma," said Eloise as they watched the men, "if we had a barrel of cider made of good apples in a clean way it would be just as good for us as good apples wouldn't it?"

"That would depend, my dear," said her mother. "Suppose you wait until after tea and ask your papa to help you answer that for yourself. To help him I will take home a little bottle of cider from this tub."

Eloise could hardly wait till tea was over to say, "Papa, if apples are good for us wouldn't clean cider be good too?"

"Let us see what Mr. Microscope says about it," said Prof. Maynard. Consulting Mr. Microscope was a favorite game at the Maynard home. "Bring a bit of yeast cake, the bottle of cider your mother brought home and an apple that has not been washed or polished."

First he put the crumb of yeast cake in some warm water and then he put a little of the water on the slide of his big magnifying glass. He set it just right for her eyes and asked her to look.

"O-o-o-o-o!" said Eloise, "Why papa I can see just lots of tiny things. They look like little foot-balls made out of jelly. Some of them have little buds growing out too. What are they. Are they alive?"

"They are yeast plants and they are alive," said her father. "If you were to watch a little while you would see that many had buds and that those grew big and lived by themselves. They increase very fast too."

"Now I will put a drop of this cider from the cider mill on the slide. Look sharp and tell me what you see now."

"I can see once in a while one of the jelly foot-balls," said the little girl. "Whyee! they look just like the little yeast plants. Where did they come from? We didn't put any yeast in the cider."

"Perhaps the apple can tell us," said Prof. Maynard. "Rub the skin a bit with your finger and see what happens."

"It's dusty, but I don't see what that has to do with yeast cakes," she said with a puzzled air.

Her father laughed and carefully washing the apple in a very little water put some of the water on another slide and asked her to look again.

"Oh, I know how the little plants got into the cider," she cried clapping her hands, "they were washed off the skins of the apples. But how did they get on the apples?"

"I will tell you," said her father. There are different kinds of the yeast plants, all very tiny and light. Some are the kind which are pressed together by the millions into yeast cakes and there are others which float in the dust in the air and are called wild yeast. It is these that settle on the apples and other fruit. See these grapes have them, too, as the microscope would prove."

"You said, papa," said Eloise, "that they are alive. How do they get their living and what do they do?"

"I was waiting for you to ask that question said her father, for that brings us back to your first one of why if apples are good, cider isn't good also."

"The little yeast plants are not only alive and able to bud and multiply very fast but they can eat too and like some little boys and girls they like sugar best of all. Indeed that is what they live on, the sugar in sweet liquids such as the juice of apples, grapes and blackberries. When they have eaten the sugar it is changed into a sharp, stinging liquid called alcohol and a gas which passes off in bubbles. So the nature of the drink is entirely changed. After a time there is as much difference between the fresh fruit juice and cider and wine as there is between sound apples or grapes and rotten ones."

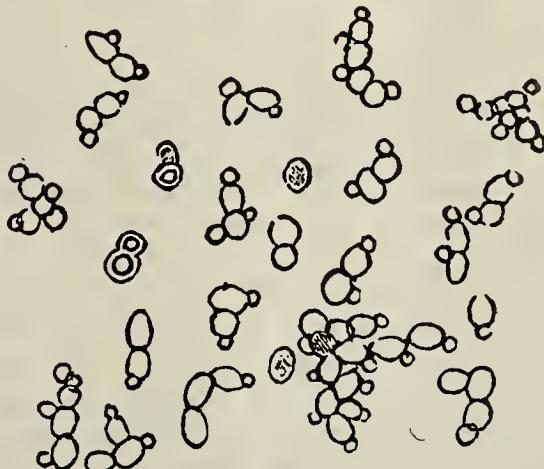
"When the juice is changed by the little yeast plants would it harm us to drink it?" said Eloise.

"Over in Europe," said her father, "where there are many grapes and apples much wine and cider are made and drunk. These drinks are given to boys and girls. One doctor<sup>1</sup> tells us that of the children who had these beverages many did not have plump, rosy cheeks and that they did not grow so well; they could not study their lessons as well or remember them as well<sup>3</sup>; besides, a number were very naughty. Another doctor whose work was in a hospital<sup>2</sup> said that the children who were given these drinks were more likely to get diseases like diphtheria and when they did were much more dangerously sick. And

other great teachers and doctors tell us that many of the drunkards who came to the hospitals very sick and even crazy began when they were young to drink the drinks in which the yeast plants had worked and made alcohol. These men became poor and often wicked as well as sick because of the alcohol in the drinks but they could not stop drinking it. That is the dreadful thing about the alcohol it may make one want it so much that he loses his power to stop."

"If those drinks could harm the children in Europe they could harm us couldn't they? But, Papa, why do they let the children drink such drinks?"

"Because," said her father, "it is only a few years since a wise Frenchman's microscope<sup>4</sup>



Yeast Plants

helped him to discover the little yeast plants and how they can change good fruit juices and grain juices, too, into alcoholic drinks and it is not very long since other wise men found out exactly about the harm that even small amounts of alcoholic drinks can do to both children and grown people. So, many of the people do not understand it fully. When they do probably they will no more think of drinking alcoholic drinks which can make them sick than they will of purposely exposing themselves to germs that cause consumption and other diseases."

"Isn't there any way of keeping the yeast plants out of the fruit juices, Papa?"

"How does your mother keep her peach and apple sauce for winter?" asked Prof. Maynard.

"I know, she boils it and cans it up tight. Is it to kill the yeast plants in it?"

"That is just the reason," said her father. "She scalds the jars and scalds the fruit and then seals it up tight so that none of the yeast floating in the air can get in and then it keeps sweet and nice till she wants to use it. Clean apple or grape juice canned in the same way could be kept nicely, too, and I think she

(Continued on page 64)

1. Dr. Imri Doczi, Budapest.  
2. Prof. Demme, M. D., Zurich.  
3. Prof. Emanuel Bayr, Vienna.  
4. Pasteur.

## The Individual Balance Sheet

JOHN DOE

In account with

ALCOHOLIC DRINKS

Dr.	Supposed advantages of drinking.	Disadvantages liable to result.	Cr.
	Physical strength and endurance lessened.		
	Reason, judgment, memory impaired.		
	Opportunities for responsible positions lessened.		
	Liability to accidents Increased.		
	Ill-health from disease caused by alcohol.		
	Ill-health because of bodily resistance lowered by alcohol.		
	Possibility of poverty, insanity or crime, due to uncontrollable craving.		
	Shortened life.		
	Children of imperfect constitution and efficiency.		
		Conformity to custom.	
		Sociability (often in undesirable company).	
		Pleasure of the palate.	
		A temporary sense of comfort (which means that alcohol has narcotized the nerves.)	
			Balance. Does It Pay?

## Using the Balance Sheets

THE "Individual's Balance Sheet" given above and the "Public Balance Sheet" following, together with the supplementary material found elsewhere in this *Journal* may be useful in a variety of ways.

## IN THE CLASS-ROOM

In the class room they may be used as a dictation exercise without comment; they may be written upon the blackboard, or upon heavy paper chart-fashion and hung upon the wall and permitted to remain until the lessons have been absorbed.

The "Public Balance Sheet" may be given as an example in arithmetic or book-keeping or used to furnish supplementary material for the advanced physiology class.

The "Individual Balance Sheet" may provide the scheme for a Friday afternoon exercise, the various points being developed by discussion and written out, or be furnished by various pupils each of whom has previously prepared one or more topics. It will be observed that each of the "disadvantage" topics can be subdivided one or more times and each may be numbered in such a way that the topics may be given in consecutive order. The "Supposed advantages" should come first.

Correlated with English it will furnish an excellent foundation for a paper or essay. The pupils may be required to look up the topics in advance of a review in the regular textbook work and the sum total of the injury due to alcohol being thus focalized, the teaching will be better remembered and probably make a more lasting impression. Point out here as elsewhere in teaching hygiene and temperance that the disobedience of health rules will not bring all the possible untoward results nor will all suffer equally. The individual's

power of resistance has much to do with the nature and kind of the injuries he suffers from any harmful practice or contagion.

## IN THE PUBLIC MEETING

There is a growing appreciation of two facts: one, that the older methods of sentimental presentation of the temperance question are in many ways outworn, and the other that the scientific side not only has a most important part to play in the temperance reformation but is, also, the freshest, newest and most interesting method of presentation.

In the various temperance and young people's organizations, in Sunday Schools on temperance Sunday and by ministers and by other individuals and societies, working for social betterment there is a constant call for something in the way of a temperance program that is new, up-to-date, interesting and worth while. Granges, also, and other societies which discuss so many problems relating to the welfare of the individual, the home and the community can do no better than occasionally to devote the time given to the "good of the order" to a live discussion of this problem which affects each more than almost any other.

For all such meetings we suggest the use of the "Balance Sheets" as a scheme for the address or for the program. Among the various methods likely to work well the following may be mentioned:

At least a week beforehand assign the topics (which should be numbered consecutively) to those who are to take part in the program. Give one or more to each person who is to look up and write out or be prepared to give offhand in five minutes or less, the matter relating to his topic. It will be better to have them written as they will be more concise and

## The Public Balance Sheet

THE PEOPLE OF THE UNITED STATES

In account with

ALCOHOLIC DRINKS

Dr.		Cr.
43,605 Insane,	\$ 26,803,500	
32,000 Epileptics,	1,600,000	
31,557 Paupers in Almshouses,	20,510,950	
Cost of 1-2 crime due wholly or partly to drink,	300,000,000	
Cost of sickness due to drink,	72,000,000	
129,318 Lives lost by preventable di- sease or suicide due to drink,	219,840,600	
	\$640,755,050	
National Liquor Revenue,		\$192,234,445
License Fees,		\$55,241,197
Deficit,		\$393,189,408
		\$640,755,050

accurate and some will find it easier to read than to try to speak even for two moments. If the leader thinks best he may himself prepare the slips containing the topic and pass them out at the beginning of the meeting.

NOTE. The facts for the items will be found elsewhere in this JOURNAL or largely in the articles "How Alcohol Pulls Down," *Christian Endeavor World* (May 26, June 2, 1910) or in article by H. S. Williams, M. D., *McClure's*, October, 1908. (Reprints of this article can be obtained from the JOURNAL at \$ .05 each, \$.50 per doz.)

At the meeting the leader may make some short preliminary remarks and then call upon the participants. Ask just what supposed advantages there are in the beverage use of alcohol, calling upon Number 1, who promptly rises and gives all or a part of the reasons, therefor, in a bright, attractive manner. The leader who has copies of the "Balance Sheet" in hand for ready reference writes in the item on the balance sheet drawn on a large blackboard, or on large sheets of paper. (In the latter case large sheets of wrapping-paper may be pasted together and charcoal or colored crayons used.) Thus one after another responds with the statements relative to his item which is entered in the "Sheet" as before.

The "Public Balance Sheet" items follow in like manner, the leader seeing to it that the program moves briskly, thought not flippantly, forward. At the close he may read the results thus set forth or may otherwise summarize and clinch facts.

If the blackboard is not available the plan can be carried out in other respects and will prove very interesting.

Another method would be: have not more than four participate, one for each of the four parts, each writing a paper, the time for reading of which is limited according to the value of his topic and the whole time to be devoted to the program.

The first method will work out very well for a temperance lesson where the whole Sunday School takes part.

In that case, as in the case of large societies, the topics can easily be subdivided and

members from each class may respond briefly when called upon.

The superintendent may well divide the work by giving each teacher charge of the items for her own class. Sunday School teachers will find it easy to adapt the plan to individual class instruction.

Additional material along all these lines can be obtained in leaflet form of the publishers of the SCIENTIFIC TEMPERANCE JOURNAL. If leaflets covering these points are distributed at the close of the meeting the facts will be clinched and in a no-license campaign would prove very helpful.

## REFERENCES

REFERENCES for the impairment of physical strength and endurance (p. 51) and of the mental faculties (p. 51-2); liability to accidents increased (chart p. 53); ill health (pp. 49, 50, 52); shortened life (p. 64); effects on children (p. 53). (See further references on all these points in earlier Journals.)

Opportunities for positions lessened. The United States Department of Labor found after inquiry among several thousand business men and corporations, that 90 per cent. of railroads, 79 per cent. of manufacturers, 88 per cent. of trades, and 72 per cent. of agriculturists replying to the inquiry discriminate against drinkers. (Barker).

National revenue (compiled from internal revenue reports); and license fees, city, county and state, (1902) (compiled from U. S. Census Report, Prohibition Year Book, 1910).

There are 43,605 insane persons in the United States chargeable to drink and it costs over \$5,000,000 to care for them. Valued at even \$500 per life we have a further loss in the insane and feeble-minded of \$19,754,000, the total loss mentioned. (Based on report of U. S. Dept. of Commerce and Labor, 1903. Percentage due to drink, over 20 per cent., Rosanoff et al.)

Epilepsy. European physicians have found a history of hard drinking in parents among nearly 50 per cent. of all epileptics. Dr. Podstata of Illinois says that of these unfortunates one in four "might if they knew enough, point the finger at their parents and say, 'it was you, by your [alcoholic] habit that brought me to this'." But taking the more conservative estimate of Dr. Rosanoff (*McClure's*, Mar. 1910) of one in five we have an army of 32,000 defectives, many of whom are entirely incapacitated and require support and care, others only slightly. A loss of ability in only 10 per cent. of these would mean a total loss of \$1,600,000 annually.

Pauperism. (Based on Report of the U. S. Dept. Commerce and Labor 1903.) In 1895 the Massachusetts Bureau of Statistics of Labor found that about 45 per cent. of pauperism was due to drink. This number is based on the percentage of the Committee of Fifty. Estimated cost each, \$150 per day, plus loss in productive capacity.

Crime. The Committee of Fifty have found drink to be at least one cause in half of all crime. Other authorities place the proportion from 70 to 90 per cent. This cost of crime estimated by Higgins, quoted from Prof. J. P. Norton, *Jnl Am. Med. Assn.*, Sept. 29, 1906.)

## Something New

Special attention is called to the chart reproduced on the back inside cover of this JOURNAL for educational purposes. It may be had in quantities at reasonable rates without printing on the back. It is hoped to make this one of a series of charts to be similarly issued.



## The Supposed Stimulating Effect of Alcohol

**I**S alcohol ever a stimulant?" asks Dr. G. W. Ives,<sup>1</sup> and, on the whole, the case is very well summed up in his reply to the question although it is perhaps, as yet, too much to say that the evidence is overwhelming. He says:

"In the minds of the laity it certainly is [a stimulant], and I fear not a few physicians so regard it. Overwhelming evidence, however, proves it to be just the opposite, that is, a narcotic, an anaesthetic; it is a vaso-motor inhibitory and cardiac [heart] depressant, in large doses paralyzing this organ, and this in spite of the fleeting feeling of well-being, due to its vasor-dilator action and so to increased flow of blood to the parts."

In discussing "General Principles in the Management of Diseases of the heart" Sir James Barr of Liverpool, said<sup>2</sup>:

"It should be urged that alcohol is not a real cardiac stimulant."

An original research to ascertain the effect of alcohol upon the circulation conducted and reported<sup>3</sup> by Dr. Clyde Brooks of Chicago, resulted in the conclusion that—

"By whatever method administered, alcohol, when circulating in the blood stream, causes a gradual, progressive lowering of blood pressure with decrease in amplitude but increase in rate of heart-beat."

In an article on the use of alcohol to recruit the strength after sickness Dr. Emilie Alexandroff says<sup>4</sup> that the effect of alcohol upon the frequency of the pulse beat is not at all uniform; it increased the rate a little and sometimes slowed it. She compared her results with those of Dennig, Hindelang, and Grunbaum<sup>5</sup> which indicated that a more sparing use of alcohol should be made in fevers than is now the case. They did not investigate the effects upon respiration. Alexandroff did, but concluded that the improvement of the respiration was of less consequence than the impairment of the circulation.

1. Detroit Med. Jnl. June, 1910.

2. Brit. Med. Jnl., Apr. 24, 1910.

3. Jnl. Amer. Med. Assn., July 30, 1910.

4. Corrb. f. Schweizer Aerzt., May 20, 1910.

5. Archiv. f. klin. Med. Bd., 96, 1909.

(Concluded from page 62.)

means to prepare some for us this fall. But if the juice should be left in barrels or bottles without being cared for, the little yeast plants in it would soon cause it to 'work' as we say. The bubbles rising to the top and the stinging taste would show that alcohol was coming in it and it was growing harmful. This happens very soon after the juice is pressed out. Can my little girl answer her own question now?"

"I think so," said Eloise, puckering her forehead thoughtfully, "but maybe I would forget before next fall. Will you help me to write it all down in my little book, Papa?"

"Yes, indeed," said her father.

Can you tell what she wrote?

### WHAT ELOISE WROTE IN HER NOTEBOOK

#### (Teaching Points)

The apples used for cider are often sour, rotten and wormy.

Cider is apt to be made in an uncleanly way.

Apple juice is good for us if we press it out ourselves and drink it at once.

Cider has yeast plants in it.

The yeast plants eat the sugar in the grape and apple juice and change it into alcohol and a gas.

Drinks that have alcohol in them are harmful.

The children that drank wine or cider did not look so healthy or grow so well or learn so well as the others. They were more likely to be sick and die.

People who drink alcoholic drinks may get to want them so much that they cannot stop even when they want to.

### METHODS

THE preceding story (exclusive of the "notebook" statements which are not intended to be read) may be used in connection with the regular textbook lesson on fermentation, the book supplying the points which could not well be touched in the story; or it may be used as supplementary reading in intermediate grades or read or told to younger pupils who reproduce it orally. (In the latter case use it in two sections.) After discussion the children may decide what Eloise wrote in her note-book and the statements be written on the blackboard from which they may be copied for future reference. (These points should be made definitely and with emphasis.) The members of the class may write letters explaining to a supposed friend why he or she would better not drink cider or wine.

Draw the picture of the yeast cells and let the children reproduce it; use a handsome apple or bunch of grapes as a model for drawing and coloring or paper cutting.



### CORRECTION

IN the review of the book "The Bible and Wine," (Oct. JOURNAL, p. 32a), the statement regarding Paul's advice to Timothy should read: "wine for the stomach," old writers on Greek medicine say was grape-juice prepared as a thick unfermented syrup for use as a medicament," etc.

# Comparative Sicknes Benefit Societies of Abstainers and Non - Abstainers

Statistics from H. DILLON GOUGE, Public Actuary, So. Australia

Abstainers represented by diagonal lines

Non-abstainers represented by horizontal lines

Av. No. Weeks of Sick- ness per Member	Av. Weeks of Sickness per Each Member Sick	Percentage of Deaths Among Sick Members	Percentage of Deaths in Whole Society
1.2 Wks.	2.3 Wks.	6.4 Wks.	10.9 Wks.
1.2 Wks.	2.3 Wks.	3.5 %	6.5 %
1.2 Wks.	2.3 Wks.	1.3 %	0.6 %

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Scientific Temperance  
Federation, Boston.

- I. Abstainers averaged only about one-half as much sickness as non-abstainers.
- II. Abstainers, when sick, recovered sooner by over four weeks, thus saving in wages and sickness expenses.
- III. Only about half as many abstainers died when sick.
- IV. Death rate in abstainers' societies was less than half the death rate in non-abstainers' societies.

## The Gulick Hygiene Series

Educators agree that the first purpose of the study of physiology and hygiene should be in the lower grades, to influence children definitely towards intelligent habits of living. The child's own action, experience and observation should be made the object of constant appeal. This the Gulick Hygiene Series does. The originality of the design of these books and the scientific and effective treatment of the material is equaled in no other series of textbooks on hygiene and physiology. The series conforms to the requirements of every state law in the amount of study given to the subject of alcohol and other narcotics.

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Two-Book Course.

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# Scientific Temperance Journal

Vol. XX

BOSTON, JANUARY, 1911

No. 5

## To the New Year

By James Whitcomb Riley

One song for thee, New Year,  
One universal prayer ;  
Teach us—all other teachings far above—  
To hide dark Hate beneath the wings of love ;  
To slay all hatred, strife,  
And live the larger life !  
To bind the wounds that bleed ;  
To lift the fallen, lead the blind  
As only Love can lead—  
To live for all mankind !

Teach us New Year, to be  
Free men among the free ;  
Our only master Duty, with no God  
Save one—our Maker—monarchs of the sod !  
Teach us with all its might,  
Its darkness and its light,  
Its heart-beat tremulous,  
Its grief, its gloom—  
Its beauty and its bloom—  
God made the world for us !

—Selected.



## Relation of the Anti-Alcohol Fight to Labor Interests\*

By G. von BUNGE, M. D.,

Professor of Physiological Chemistry in the University of Basle.

AM glad of an opportunity to take part in a discussion of the alcohol question in your union. I believe that an earnest conference on this matter among you would have fruitful results, for what has called us together here is a general interest in the great problems of our time, of the so-called social questions. Among these questions the alcohol problem stands first.

I believe this for the following reasons :

First. You will all admit at once that health is of more importance than property. In all that is generally understood by the social question it is a matter only of mine and thine, of a just distribution of the products of labor. In the alcohol problem the question is to prevent the noblest races of mankind from being stamped with hereditary taint and perishing body and soul.

Second. The solution of the alcohol question is urgent ; it allows less of postponement than the solution of all other questions. An unjust distribution of property can afterwards be readjusted, but when the whole nation is impregnated with hereditary suffering, an endless amount of evil and misery is produced which can never afterwards be remedied.

Third. The solution of all other questions will be greatly promoted by the solution of the alcohol question. For the solution of the labor question, particularly, the matter of food, strength and health of the laboring

classes is the most important preliminary. In every situation, in every problem, the working class would gain an enormous advantage in the struggle from abstinence.

Fourth. Everyone of you may paint the future of the socialistic state as you please, but on one point you will all agree : the first condition must be office-holders who have a sense of duty, who are conscientious and capable of self-sacrifice. And let me ask what undermines the sense of duty, of conscientiousness, and what is a greater source of irresponsibility, dislike and unfitness for work than the drink habit ?

Fifth. Abstinence makes the working class free and independent of the property holders ; for example, in the winter of 1860-61 in London, intense cold and great lack of employment prevailed and the number of those who had to be supported by the city was greatly increased covering 130,370 persons. But of the 7,947 factory hands and laborers who were members of the abstaining societies, not a single one applied for public relief. You, of course, desire that a proud, self-respecting working class, battling for their right to acquire capital should not be put in a position where they are obliged to ask alms. How very different is the condition of abstaining workmen from that of those who frequent the saloon. Do not undervalue the strength which the consciousness of moral superiority gives to men in every struggle. A sober working people will conquer and win everything that is their just due.

\*Part of an address before the members of a social-democratic organization near Basle, in 1893.

## WHERE LAITY'S OPINION IS COMPETENT

You have probably expected that I would speak to you as a representative of medical science. On the contrary, I must say that according to my opinion our medical and physiological knowledge is not necessary for judging the practical side of the alcohol question. If in England, 5,000,000 men in every thinkable calling keep themselves healthy, alert, vigorous and energetic without a drop of alcohol, and if life insurance and sickness insurance statistics teach us that the abstainers are much less frequently sick and live considerably longer than the moderate drinkers, that is all the laity needs to know in order to form as competent an opinion on the alcohol question as the learned physiologist.

And if that is true of the moderate use of alcohol it is not necessary for me to say anything further about the results of immoderation. You all know from your own daily experience the devastation caused by alcohol. You all know the consequences of immoderation better than I. I may, however, remind you of the statistics which physicians gathered of the causes of death in the Swiss cities, where, as you know, every ninth man dies from the results of drink.... But think what a vast amount of misery went before, how much the happiness of others was destroyed long before the drinker died, and remember also the hereditary effects, the hereditary burdens upon lives and souls.

It would, moreover, be a great error to think that the eight who did not die as drinkers were in no way injured by alcohol. The population of Switzerland can not be divided into those who die as drinkers and those who are always moderate. There are many grades between, and long before one of these is designated a drinker by the physician he can have done great injury to himself and his descendants....

## THE NATION'S HEREDITARY SUFFERING

Is it possible in the face of all this misery for a true friend of man, a socialist, to stand with his arms folded and say, "Ah, well, it has always been so," or "Oh, it will be better soon?" Gentlemen, it will not be better. The evil will still enormously increase and men will finally be obliged to look to total abstinence. It is nothing but utter folly for men not to do it, to stupidly look on while thousands and tens of thousands of families are brought to unutterable misery and the whole nation is filled with hereditary suffering. Can anyone believe, moreover, that

anything can be accomplished by half-measures. Nothing is ever gained by half-measures. *The history of the struggle lies before us.* Only the most radical methods have proved good. Let everyone make a beginning with himself, break at once completely with the drinking customs and join an abstinence society.....

## THE SEDUCERS ARE THE MODERATES

It is not true that it is always the weak characters that are injured by following the drinking customs. Alcohol first weakens the strong character by moderate use and then corrupts the weak character by immoderate use. .... Every drinker was once a moderate drinker and everyone who leads others to drink leads some of them to immoderate drinking. He sets a stone to rolling which it is afterwards out of his power to stop. The seducers are not the immoderate; they have done an undeniable service by their frightful example.

The seducers are the moderates and as long as the seduction is not stopped there will be immoderation with its consequences; disease, insanity and crime without ceasing. Whoever does not know that, does not know the history of the battle against drunkenness...

What would we think if some one should say. "I am a vigorous swimmer and take great pleasure in swimming. But it is lonesome to swim alone, therefore I persuade eight others to swim with me. I know indeed very well that one of the eight will drown; but my conscience is clear. I do not ask them to drown. I only ask them to swim with me."

What is the difference between this conscienceless swimmer and the moderate drinker? Who can show that on moral grounds there is any difference. I find only one—the moderate drinker's conscience does not trouble him because there are many others as much to blame as he.

## THE WORKINGMEN'S SPLENDID REMEDY

In conclusion I may be allowed to relate what a representative of moderation reports of a visit to England:

"I was in Liverpool. One day my host said to me, 'Today I will show you something the like of which is not to be found in your whole country.'

When evening came my friend took me to a building having a fine exterior. The ground floor was taken up with large shops like coffee rooms and public kitchens.

When I entered there were gathered there between 150 and 200 consumers who belonged almost exclusively to the working class. On the floor above was a beautiful hall and audience room, with a reading room opening off in which were a large number of periodicals and a library. In one corner was an office-window to a savings bank and an insurance institution. (In England at the present time there are about one and a half million working men who are insured.) And there were gathered a large number of working men, many with their wives and some with their children. The whole company were reading or talking and discussing in harmony and good humor.

"I was in a club that was founded, managed and composed entirely of work-men. No

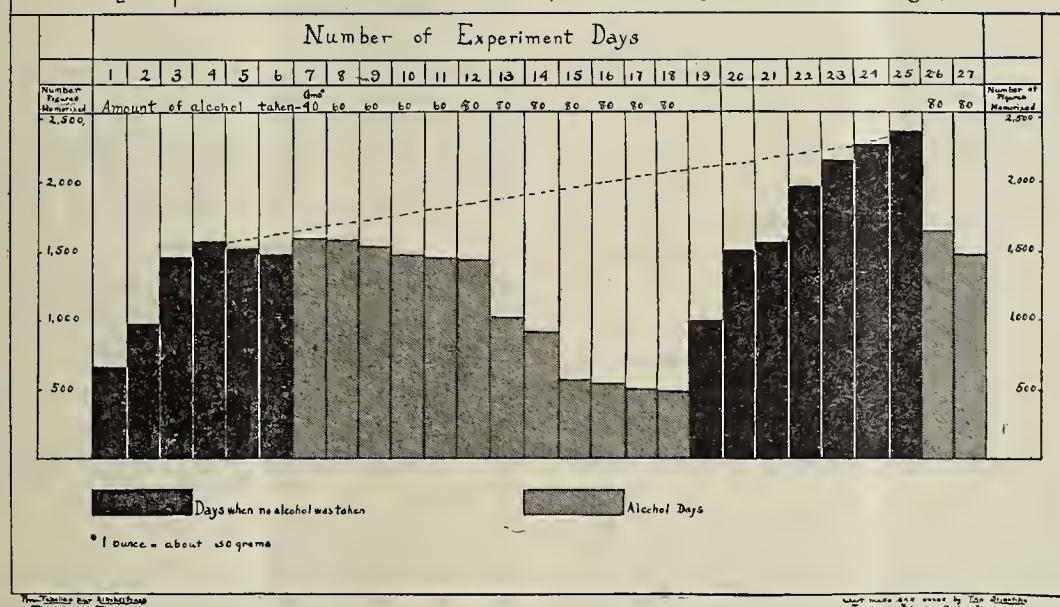
that way and begin meeting together in some room where they could read papers and magazines and spend their evenings like rational people instead of contributing to the general brutalizing in the saloons.

"Their numbers gradually increased and allowed them to enlarge their meeting-place. They organized a society, gave out shares, and finally established this beautiful building. There is a strong force, from 1000 to 2000 workmen who instead of guzzling save what that would cost them. It means at least 4000 francs (\$800) a week, 200,000 francs a year. And with that wonders can be done.

"These people have their club as well as do those belonging to the nobility. They meet together for reading and discussion and

## ALCOHOL AND MENTAL WORK COMMITTING FIGURES TO MEMORY

[Experiments of Dr. A. Smith, University of Heidelberg.]



Each column represents one day. Amount of alcohol equalled 1-2 to 1 bottle of wine or 3 to 4 glasses of beer; memorizing done 8 to 12 hours afterwards. Dotted line shows gain that ought to have come by practice. Note progressive loss of ability amounting to 70 per cent. on the 12th alcohol day.

luxury, but comfort and strict sobriety. The building enclosed a playground on which many young people, and some older ones, were engaged in the physical exercises and sports so popular in England.

"And do you know, my friend," said my host, "what it was that called this fine building into existence and maintains it and beautifies it from day to day? Temperance. All the men you see here, and there are today 1200 of them, are working men who are united in a total abstinence society. Instead of spending, as they did for years before, 4, 5, or 6 shillings (\$1 to \$1.50) a week for drink, the idea occurred to some to save and put together the amount they had been spending in

frequently to hear lectures. Political speakers on their rounds come here and speak for the workingman's club is already a power with which they must reckon. Here the laborer is a man, a citizen and a voter; no one thinks any longer of denying him his right to have his say in the current affairs of the state.

"And to what is due this astonishing progress in his material, intellectual and political condition? This power, this increased value, to which his saving of his money has led, is due to abstinence."

Gentlemen, you are working for an eight-hour day. Where would you have the workman go after he has worked his eight hours to find his well-earned rest and to satisfy his

justifiable desire for mental refreshment? Shall he go to a place like the one just described, or to the saloons of our cities? And would you wait until the eight-hour day has been secured? Is it not rather a duty, a serious, solemn duty, to go to work immediately to establish for the tired working man a suitable place for him to rest in. The first step in that direction is the temperance society. We have no time to lose. Every hour brings new victims. Every hour strong, brave, good men are being carried down to destruction.

Think of all the loss of will and strength for work, of all the unfitness, of all the lost hours and days and blue Mondays. Think of all the prisoners in the prisons, of all the sick in the hospitals, of the insane in the asylums and the great number of people watching

over and taking care of these. A fifth of the total energy of the people would be saved by the removal of this poison. If all the strength and energy wasted in these and other sources of misery, and all of this energy could be devoted to improving and elevating the human race, what an infinite perspective would be opened for the progress of human happiness!

A sound policy is one that stands in harmony with the eternal laws of nature. Nature strives for perfection. A noble, beautiful, happy human race is the goal toward which all her energy is being directed. And I know of nothing that can give greater joy in life than working together in the struggle to reach this high aim toward which nature points us.

## The Financial Loss of Absences Due to Drink

BY R. H. SCOTT,

Factory Manager, Reo Motor Car Co.

FOR several years I have been investigating the drink question from the stand-point of the employer and the employee, and among other things, the matter of unnecessary absences.

In the Reo Motor Car Company Works (Lansing, Mich.) every second Wednesday is pay-day and after these pay-days there has been considerable loss of time on the part of drinking employees.

In order to learn definitely the extent of this loss, the time keeper was instructed to report the loss of five consecutive pay-days (ten weeks) carefully investigating each absence and rejecting all cases in which there was any doubt as to its being due to drink. Each individual was counted but once, that is, the man who after a given pay-day lost Thursday was not counted again with the men who lost Thursday and Friday, or who lost three days. However, I believe that fully 50 per cent. of the men off after different pay-days were the same ones.

The reports would fairly represent the average for the year. In the ten weeks no less than 190 employees lost from a half day to three days following the receipt of their pay. Such absences mean a considerable loss to the manufacturer for when a man fails to appear, machines and other men must wait till the man's place can be filled. Time means money. If, after a night in the saloon, the men do come to work, in their groggy condition their working ability is often impaired and they waste considerable material.

Bearing in mind that Wednesday of every

## Absences Following Five Separate Pay-Days.

No. of men off	1/2 day Thursday.....	11
" "	" all day Thursday.....	13
" "	" Thursday and Friday.....	2
" "	" Thursday, Friday & Saturday.	14

No. of men off	1/2 day Thursday.....	23
" "	" all day Thursday.....	27
" "	" Friday .....	21
" "	" Thursday, Friday & Saturday.	19

No. of men off	all or part of Thursday.....	24
" "	" Thursday and Friday.....	1
" "	" Thursday, Friday & Saturday.	9

No. of men off	1/2 day Thursday.....	11
" "	" all day Thursday.....	14
" "	" Thursday and Friday.....	1
" "	" Thursday, Friday & Saturday.	9

No. of men off	1/2 day Thursday.....	8
" "	" all day Thursday.....	13
" "	" 2 1/2 days .....	5
" "	" Thursday, Friday & Saturday.	9

The wages of these men average \$2.25 per day. It will be noted that after the five pay-days, 56 men "celebrated" for three days each, (i. e., Thursday, Friday and Saturday) at a personal cost to them of \$6.75, or, each man sustained a loss equal to about 25 per cent. of his two week's wages.

The men who form the drinking habit to such an extent that they are away from their work two or three days after pay-day, generally keep it up as long as the firm for which

they work will stand it. When men are scarce they may hold their positions for a considerable length of time. At the present time, however, we would not tolerate this, as we are in position to get sober men.

As a result of my investigations, I believe that drink causes serious financial loss to both the employer and the employees; and that it

results in a lower wage scale to the employee, made necessary by the fact that he is not as efficient as a sober man, and that the employer is compelled to have his investment in machinery, buildings, etc., standing idle, resulting in a loss of production and business, especially at a time when he is behindhand on his orders.



"To the man who is actively engaged in responsible work, who must have at his command the best that is in him at his best—to him I would, with all the emphasis that I possess, advise and urge, leave drink alone absolutely. . . . He who drinks is deliberately disqualifying himself for advancement. . . . Personally, I refuse to take such a risk; I do not drink. . . . With hardly an exception the men who are incapacitated first during the preliminary activities of any campaign are the drinkers. The same is true in every effort of life which demands the best energies of a man".—President Taft.



## The Locomotive Brotherhood's Rules

By WARREN S. STONE

Grand Chief, Brotherhood of Locomotive Engineers.

THE question of temperance is one of the cardinal principles of the Brotherhood of Locomotive Engineers, and is as strictly enforced as any of the other laws of the organization. No man can drink, either, off duty should it become known to the members of the organization, without being expelled from the order.

I represent a class of men who above all others, require a clear brain, and for that reason if there is any one thing that we fight first, last, and all the time it is the question of drink. In these days of fast time, congested traffic and heavy trains, the engineer in the cab of a locomotive needs all the brains he has and he can not afford to have them muddled with alcohol. I not only preach total abstinence, I practice it as well.

Ten years before any of the railroad companies required this, we had these laws forbidding the use of intoxicating liquors in our constitution and by-laws. Many of our railroads have become so strict at the present time that they will not employ as a beginner a young man who uses cigarettes because one eventually leads to the other. Cigaretts and intemperance go hand in hand, and one is about as bad an evil as the other; when you combine the two, such a young man is not of very much account in railroading in the present age. For that reason, companies are taking a very rigid stand upon both.

There is no question but what the man who does not use intoxicating liquors is a better man in every respect, physically, mentally and morally, and for that reason the organization

is fighting with all its might to keep its men up to the very highest standard of American citizenship, not only to be good engineers, and good members of the organization, but to be high class citizens, such as the world at large could be proud of. There is, perhaps, no other class of men in the world upon whom so much depends as upon the locomotive engineer. If there is anything in Darwin's theory of the survival of the fittest, it is represented in the engineers of America, in their locomotive cabs today.

### Law of Michigan

No person shall be employed as engineer, train despatcher, fireman, baggage-man, conductor, brakeman, or other servant in any of the operating departments who uses intoxicating drinks as beverages.

### What the Accident Insurance Company Advises

Wherever possible it is advisable to prohibit absolutely the drinking of intoxicants during working hours. No man under the influence of liquor, even slightly, should be permitted to remain in the works, much less to work. A man whose nerves have been rendered unsteady by the habitual use of alcohol or by a recent debauch should not be permitted to operate dangerous machinery or to carry on dangerous work. He endangers not only his own life but the lives of others."—From a pamphlet issued by the Fidelity and Casualty Accident Insurance Company.

## Alcohol Makes Hard Work Harder

BY W. PFAFF, M. D., MUNICH

THE influence of alcohol extends even to the muscular apparatus. When we remember that during physical labor the blood stream flows more strongly than at other times to the muscles, the more pronounced effect of alcohol used during work by agricultural and other hard laborers is easily understood and it explains why they travel homeward from their work with heavy, languid gait, as if their limbs were loaded with lead, and instead of becoming nimble and elastic from their work, they become stiffer and more sluggish in consequence of the use of alcohol and the frequently accompanying insufficient diet. The muscular apparatus becomes fatigued much sooner under the influence of alcohol than without, as various investigators have made clear and indubitable by experimental researches, a fact that had been evident before to the objective reasoner from experiences in daily life. The thick tongue and the stiffness of the intoxicated person who can scarcely raise his glass to his mouth, and that not without trembling, and who, in the deeper stages of intoxication "lies like a log," show the influence of alcohol upon the musculature.

Furthermore, the fatigue, relaxation and distaste for work which the laborer feels on Monday after the Sunday rest, even when his increased amount of drink has not resulted in drunkenness, shows this injurious influence, especially when one compares it with the beneficial effects of rest upon an abstainer. And yet one so often hears it said that alcohol renders endurance easy, that it facilitates recuperation in the hard working individual. But entirely aside from that, the fact that the use only after work of sufficient alcohol to produce euphoria [a sense of well-being] has a disadvantageous effect upon the work of the following day, chiefly by hastening fatigue, as Kraepelin and his pupils have shown, especially when it is taken daily for several days in quantities called "moderate," must make one reflect that it must be a peculiar kind of "recuperation" when alcohol still further incapacitates the fatigued muscle or poisons the wearied brain. How totally different for the former, in the way of good physiological strengthening, are the effects of refreshing rest, and for the latter a plentiful supply of fresh air which afterwards, in connection with an unstimulating diet brings refreshing sleep and true recuperation and invigoration. Alcohol at most can only deaden the unpleasant feeling

of fatigue and thereby render further physical exertion possible. No mortal can possibly do real mental work after taking a quantity of alcohol that produces euphoria. By this deadening of the feeling of fatigue a man delays giving his body the rest it needs and exerts himself beyond his strength, for even sitting in a tippling company is a strain on a tired man.

The feeling of weariness is the safety-valve of our organism which protects it from over-exertion. Whoever deadens this feeling is like an engineer who weighs down the safety valve of his steam engine in order to get more work out of it. A well built machine will stand it up to a certain point but it is not made better by such a trial, while every repetition reduces its power of resistance until it is no longer equal to even its normal working power and soon goes to pieces.

In the same way it is nonsense to resort to the so-called "use" for euphoria, for the bodily machine is not improved thereby but on the contrary made less efficient, a fact that is plainly taught but soon forgotten again by the condition after the euphoria has passed off.

The fact that after a day of hard exertion a man feels his fatigue less in the evening after taking his usual "moderate" though non-intoxicating quantity of alcohol should be set over against the fact that the next morning on arising he feels more fatigued than when he went to bed, and furthermore, tires more easily during his work than he would have done without the previous evening's drink.

Thus it is clear that by taking alcohol the organism loses instead of gains the strengthening effect which a healthy abstainer derives from not undue physical exertion when he has taken proper rest. The euphoria of the evening after work is purchased at too great a price.



## German Alcoholic Mortality

THE Prussian Statistical Year Book for 1909 gives the number of persons who died of delirium tremens in 1908 as 1,157. Fifty-seven of these died between the ages of 15 and 30; 932 between 30 and 60; 131 between 60 and 70; and 34 were over 70.

The number of cases of alcoholic insanity in the insane asylums of the kingdom was 5,652, of whom 5,321 were men and 421 were women.

## Alcoholism and Tuberculosis

THE Henry Phipps Institute in Philadelphia for the treatment of tuberculosis is compiling some valuable statistics on the relation between alcoholic habits and the response to treatment for tuberculosis. Beginning with the year 1907, the reports of the institution tabulate the course of the disease in seven classes of persons: (1) alcoholics, that is, "those who had used enough alcohol to do themselves some physical harm"; (2) those who had not; (3) those of whom there was no record; (4) those who had alcoholism in the preceding generation; (5) those having no alcoholism in the preceding generation; (6) those furnishing no record; (7) cases without alcoholism in either present or preceding generations.

The statistics for 1907 and 1908, the only ones so far accessible, show a marked difference between the alcoholic and the non-alcoholic classes. Of the former there were 293 cases; of the latter, 1145. In 1907, 50 per cent. of the non-alcoholics improved, but only 26.14 per cent. of the alcoholics; 22.87 per cent. of the alcoholics died, but only 7.83 per cent. of the non-alcoholics, showing, as the report says, "nearly twice as good results for the non-alcoholics as for the alcoholics."

The results of treatment in those who had a family history of alcoholism were only a little less striking: 47.20 per cent. of those with a family history of non-alcoholism improved as against 37.03 per cent. of those with a family history of alcoholism; 13.58 per cent. of the latter died, but only 9.48 per cent. of those who had no alcoholic family history.

The figures for 1908 give almost the same percentages: mortality 100 per cent. higher among alcoholics, 80 per cent. higher in those of alcoholic parentage; improvement 30 per cent. greater in non-alcoholics than in alcoholics, and 10 per cent. greater in those without than in those with alcoholic parents.

The number of those in whom the disease was arrested was very small in both classes. The total for the two years (1907 and 1908) was only 4 (1.61 per cent.) out of 247 who gave a history of alcoholism, and 15 out of 934 (1.60 per cent.) who gave a history of no alcoholism.

The same applies to the arrested cases in those whose family history was reported: 5 out of 266 (1.87 per cent.) had the disease arrested among those having alcoholism in the preceding generation, and 14 out of 899 (1.55 per cent.) where there was no alcoholism in the previous generation. These numbers,

especially among the alcoholic class, were rather too small to give significant percentages.

The Phipps's statistics throw little light so far upon the relation of alcoholism to the implantation or occurrence of consumption. The number of non-alcoholic patients treated in the institute outnumbered the alcoholic about 5 to 1. Probably there is not in the general population from which these patients were drawn 1 alcoholic of the degree taken as representative by the Phipps Institute to every 5 persons in the community not thus alcoholized, which would indicate that the alcoholic class of the population had a larger representation under treatment for tuberculosis than the non-alcoholic class. To determine this point absolutely would necessitate a count of the "alcoholics" in the community to determine their ratio to the non-alcoholic. A separate classification of total abstainers, all through, would afford additional light.

## The Changing Standpoint from which Alcoholic Drinks are Regarde

THE announcement of a new quarterly review (*Die Alkoholfrage*) devoted to scientific and practical phases of the alcohol question notes in particular the following steps that have been taken in the solution of that problem.

"It is a striking fact that the alcohol problem has for a long time been denied due attention because of our custom of considering the use of alcoholic drinks as a mere private affair. How much or how little a person takes of these drinks, that—we thought—concerned only the individual. 'To know and control one's self is the task of the individual.' One took the problem for a private affair and overlooked, or at least, undervalued the full importance which the drinking custom of the individual must have for the persons around him and for his descendants. One hardly realized to its full extent the connection between such drinking and criminality, pauperism and other social miseries, nor did we feel strongly enough how far the whole efficiency of a people must be paralyzed by the custom of such drinking.

"In the course of the last few years a change for the better has set in. More and more people are coming to comprehend that alcoholism is to be looked upon not only as a disease of the individual, but of the nation, and that the struggle against alcoholism is one of the foremost social duties."

## The Friendly Hand

When a man ain't got a cent an' he's feeling kind o' blue,  
 An' the clouds hang dark an' heavy and won't let the sunshine through,  
 It's a great thing, O my brethren, for a fellow just to lay  
 His hand upon your shoulder in a friendly sort o' way!

It makes a man feel curious; it makes the tear-drops start,  
 An' you sort o' feel a flutter in the region of your heart.

You can't look up and meet his eyes; you don't know what to say,  
 When his hand is on your shoulder in a friendly sort o' way.

Oh! the world's a curious compound, with its honey an' its gall,  
 With its cares an' bitter crosses; but a good world, after all.  
 An' a good God must have made it—that is what I say  
 When a hand rests on my shoulder in a friendly sort of way.—*Selected.*



## The Working Man's Sources of Enjoyment

By E. L. TRANSEAU

ALL men desire pleasure, enjoyment, happiness, and most men agree that these are proper desires. In fact, one "inalienable rights" mentioned in the Declaration of Independence is "the pursuit of happiness." But where men cease to agree is on the methods of securing happiness.

There can, of course, be no one method suitable for everybody for natures differ. But certain laws run uniformly through human life, and enjoyments that violate these laws bring penalty, sooner or later, in the form of pain or unhappiness.

Physical law requires that eight out of the twenty-four hours be given to sleep; the many who earn their daily bread have to spend usually from eight to ten, or even twelve hours in labor; meals and one's toilet take another three or four, so that only from one to four hours are left free for the choice of enjoyment. Not all of the enjoyment of life is by any means confined to these hours of leisure. Pleasure may be gained from work itself, even when uncongenial, through satisfaction in doing it well or quickly. The hours spent at meals may and should be hours of enjoyment.

But how to get the most pleasure with the least unpleasantness out of leisure time is each one's individual problem. Those who have learned before they have reached the time of life when leisure is scant to find enjoyment in good reading, music, or some form of art or handicraft are fortunate. For them new and widening sources of pleasure are ever opening.

"But," it is frequently urged, "the man engaged in very hard work is too tired when night comes for such enjoyments. He needs

lighter forms of entertainment." If his home is what it should be it will afford just the kind of relaxation and simple enjoyment he needs after his day of toil. If such home conditions are lacking, and in some cases where they are not, working men are in danger of forming the habit of going to the saloons to spend their evenings. In fact, the saloon has been called the working man's club because it affords him an opportunity for the enjoyment of social intercourse. But the danger from the use of alcohol far outweighs the benefit of the social side of the saloon.

Real working men's clubs, without alcoholic drinks, have proved a valuable source of enjoyment. Experience has shown that in the absence of alcohol higher and better methods of enjoyment are promoted. (A case in point is mentioned on p. 67.)

### DELUSION OR NEGATIVE ENJOYMENT NOT REAL ENJOYMENT

Whether indulgence in alcoholic drinks really comes under the head of enjoyment is a question. One writer calls it negative enjoyment because the effect most sought for, especially by the tired working man, is the banishment of disagreeable feelings. It makes him forget his fatigue, care, hardship or whatever the trouble may be, and for a little while feel that his world is rosy instead of thorny. If it did only this and nothing worse it might do no especial harm for him to delude himself in this way for a while, but its tendency is to increase the cause of his troubles by making him less able to overcome them. The fatigue which he does not feel because his senses are dulled with alcohol is

still there and if not cured by proper rest it will take its toll from the next day's strength. The reason for his inability to find less exhausting employment is there and will not be remedied by deadening the feeling of dissatisfaction with alcohol. The inability to make a scanty wage cover family necessities will not be improved by spending a part of it in forgetting the suffering at home or the lack of sufficiently nourishing food.

A German writer has illustrated this method of escaping care by supposing that a man whose house is on fire should begin calling for help and the fire department should come and turn the hose, not on the fire, but on the man to stop his noise. The proceeding would be as sensible as stifling nature's cry for relief from weariness or discomfort in mind or body by deadening the call of warning and leaving the cause untouched.

#### TROUBLES DRIVEN AWAY BY ALCOHOL RETURN REENFORCED

Tried by the test of whether it makes one more or less fit for the next day's work the alcohol method is condemned at once. Common experience and precise laboratory tests prove that the amount of alcohol that would so effect the brain as to make a man forget his troubles would increase his liability to fresh troubles the next day.

In the ordinary occupations of life one is called upon to use a quick and accurate perception, discrimination, reasoning, judgment, memory. The amount of alcohol in one glass of beer (10 to 12 cubic centimeters) has been found to weaken these faculties temporarily and the amount in from three to six glasses (40 to 80 c. cm.) taken day after day for several days has been found to steadily lower perception, reasoning and other faculties, as shown by loss of ability to add and memorize figures, and to connect one's ideas.\*

These are no unusual quantities for a man to take in the course of an evening, at least in company where the custom of treating prevails, and it is commonly thought that one who can take that amount without showing any effects of intoxication is not harmed by it.

#### ABSTAINERS FIRST AND FITTEST

Many experiences in every day life have confirmed the results of the exact experimental tests. Among others is that of the company of Scots and the company of Englishmen

\*Experiments of Wilhelm H. Specht, Leipzig Monograph (907) and Prof. Emil Kraepelin and his pupils, published in Wundt's *Philosophische Studien* and Kraepelin's *Psychologische Arbeiten*, vols. II and III.

engaged together in the same kind of work. The Englishmen jeered the Scots for drinking only milk and water with their meals, told them they needed ale to make them strong. The Scots declared they would prove themselves the stronger by doing more work the next day than the Englishmen could. The test was made and the Scots not only came out ahead with the work but they were fresh enough to sing and dance over their victory while the Englishmen were completely exhausted.

The Marathon races constitute one of the most exhausting forms of sport, calling for long continued endurance of severe physical exertion. And in those it has been proved that without alcohol men come out comparatively fresh, while with it they are either used up at the end or fall out by the way.

These facts are known to many, but not to everyone. Those therefore, who continue to use alcoholic liquors as a help to hard work or to banish discomfort after the day's work is done, either do not know these facts and need to be told, or they are reckless of their own best enjoyment.

#### Scientific Lecture Courses on Alcohol

**F**OLLOWING the example of the Berlin Central Society for combating Alcoholism, two other temperance societies, one in Dusseldorf and one in Colmar have inaugurated similar courses.\* The latter was attended by about 400 teachers of Alsace-Lorrain who at the close of one of the sessions passed resolutions affirming that they held the occasional instruction of the young concerning the injuriousness of alcohol, thorough instruction in the seminary, and particularly the withholding of alcohol from the young until the conclusion of development, to be the most important aims of modern school instruction, and that they welcomed all efforts designed to strengthen the service of the teaching profession in the combat against alcoholism, and to influence the parents toward a non-alcoholic regimen in the training of their children.

This is in keeping with the recommendation of the Country Life Commission appointed by President Roosevelt which included among the "simplest and commonest laws of hygiene and sanitation" which ought to be "known in some useful degree to every boy and girl on leaving school", the physical evils of intemperance.

\*Press Correspondence of the Deutschen Verein gegen den Misbrauch geistiger Getränke, Oct. 28, 1910.

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## Made in Germany

THREE-QUARTERS of a century ago, Carlyle remarked with sly humor that "the German can stand peaceful on the scientific watch-tower and tell the Universe, which so often forgets the fact, what o'clock it really is."

One is impressed anew with this trait in what Carlyle also called "learned indefatigable Germany" in bringing together reports of work of real scientific or social investigation of the alcohol question, of which so large a proportion is being done by the German-speaking people. While Germany has not until recently made as rapid progress as Great Britain and the United States in organized work against alcoholism, now that the movement is under way, it goes forward with the assurance of a well-laid scientific foundation. In scientific work on this subject as in so many others, Germany has made the world its debtor.

## Industrial Assets and Liabilities

M. R. EDISON is reported to have said recently that "society must cut out this drink business; that using drink in business is like putting sand into the bearings of an engine, and the social machine runs hard enough without having sand in its bearings."

The laborer of all classes—and this includes us all—in the experience of a growing number of practical men is putting upon himself a probable handicap if he indulges in drink. In some occupations, as pointed out elsewhere in our columns, this handicap is already recognized as so certain as to be prohibitive of employment.

Even a dozen years ago very many employers in the United States were taking some

account of the habits of their employees as to drink as shown in the diagram on the inside back cover of this JOURNAL. The number is unquestionably very much larger today. The reasons for abstinence whether sought in the field of economics or of health, as the *Journal of the American Medical Association* remarks, are already abundant.

Science is cautiously but surely defining the method and degree of physical and mental impairment by alcohol. The employer in his keen hunt for business leaks is discovering that the drinking employee is a definite source of loss; labor leaders are pointing out the fact that drink tends to anesthetize the ambition that is an impelling motive to the laborer, and to perpetuate the very conditions against which organized labor contends. The laborer himself is beginning to reach the conclusion that drink costs him dear in efficiency, earning capacity, and professional self-respect.

Thus, assailed from the four quarters of the business compass, industrial drinking finds its supposed assets vanishing and its liabilities increasing.

## A Word with Editorial Brethren

FOR be it from the *Journal* to begrudge to Editorial scissors whatever in its columns may be of interest to readers of other periodicals. The honor of such reproduction is received gladly, and, it is hoped, with becoming modesty.

There are times, however, when editorial satisfaction at placing before the *Journal's* readers an original article or the material imported from other countries and translated at considerable expense of money and gray matter is somewhat dashed in finding such material reproduced verbatim in other publications as though it originated with them especially when, as not infrequently happens, a third editor copies from the second producer and in a desire to be honest gives the latter the credit as the source.

One article thus copied from the *Journal* recently went the rounds of seven or eight papers, each of which ascribed it to the paper which originally failed to give credit to the *Journal*.

The crediting of articles is of small consequence in itself, but it does serve to indicate to the reading public what a publication stands for.

By all means use the *Journal's* matter if useful to you, friends. All the *Journal* asks is that your forms be locked with the editorial Golden Rule.

## London's Abstaining Mayor on Alcohol and Efficiency

THE Lord Mayor of London, Sir Vezey Strong, is not afraid to stand up and be counted on the side of abstinence and to give his reasons. He has on more than one occasion taken part in the meetings of the National Temperance League, once in particular at its Jubilee meeting in 1906, before he was mayor. At that meeting he gave his testimony to the fact that total abstinence is a most important aid to commercial prosperity as it is an aid to every agency for good that may be employed for the elevation of the race.

This matter of the relation of alcohol to commercial efficiency is one that has received attention from many of the foremost men of England. The *Daily Mail* reporting the remarkable meeting at the Mansion House, when the present Lord Mayor was Sheriff of London, said of it:

"A man casually entering the Egyptian Hall of the Mansion house yesterday afternoon might have fancied himself at a big company meeting. Well-known faces from the Stock Exchange, Lloyd's and Old Broad Street were in every room, insurance offices, gold mines and banks were represented in every corner; the President of the London Chamber of Commerce was on the platform with the Mayor, and City doctors near him. Yet the meeting was a temperance meeting, or rather a conference of business meeting, summoned to discuss the question of 'Alcohol in relation to Commercial Efficiency.'"

The matter is to receive further attention at an Imperial Conference which is to be held in London during coronation week. Arrangements are being made for the preparation of valuable memoirs from representatives from the English Colonies and India upon various aspects of the temperance problem as to the effect upon Imperial efficiency and status.



## The Butcher and Baker getting their Share

OME of the results of the remarkable "Catch-my-Pal" movement inaugurated in Ireland in 1909 by the Rev. Robert J. Patterson, LL.B., of Armagh are reported in the *National Temperance Quarterly*, Dec., 1910:

"Children are being better fed and clothed, and a higher standard of living prevails among the people. The butcher, baker, grocer, shoemaker and dry-goods merchant are all benefitting by the spending with them of

the large sums of money formerly wasted in drink. Butchers are selling meat instead of bones, and pawnshops are being closed up. In the city of Londonderry last winter, more children's boots were sold than ever before during the same period. The life of the policeman has become, in reality, a happy one, and cases are few and far between in towns where they were formerly numerous."



## Failures in Home-Making

THE Associated Charities of Boston during 1910 made a special study of 352 families where the father was at home, able-bodied, but did not adequately support the wife and children. In seeking the apparent causes for failure to support the families, all but two of the sixteen conferences of the city gave intemperance as the chief cause. Of the 352 men reported, 243 were found to be more or less habitual drunkards. "From our brief review of the causes," says the report, "the burden of blame seems to rest on individual character and intemperance entangled together, rather than on environment, except as environment makes character."

\**Massigkeitsblatter*, Oct., 1910.

An investigation made in the poor-houses and houses of correction in Strausberg\* in the Province of Brandenburg furnishes additional evidence of the destructive influence of alcoholism upon family life. Of 384 in those institutions in 1907, 121 were married; 86 of these had lived apart from their families for years, and had contributed nothing toward the care or training of their children; 29 had been divorced, mostly for drunkenness and cruel treatment. In no single case had the marriage been broken through any fault of the wife. Only 6 still lived with their families. Nearly all of the 86 who had forsaken their families and the 29 who had been divorced were drinkers.

In harmony with the results of special investigations of the causes of broken or weakened family ties are the statistics of the Department of Commerce and Labor (1908) concerning the relation of drink to divorce in the United States. From 1887 to 1906 intemperance was either a direct or an indirect cause of 26.3 per cent., or more than one fourth, of the divorces granted to wives, and of 6.1 per cent. of divorces to husbands. It was present as a contributory cause in 32.4 per cent., or one-third of the cases in which the wife obtained a divorce on the ground of cruelty, and in 21.2 per cent., or one-fifth of the divorces granted to the wife for neglect to provide.

## The Alcohol Burden of the Insurance Companies

MORE and more the conviction deepens that the insurance societies are heavily burdened by alcohol. Hence an article\* by one of the keenest and most widely experienced of German insurance physicians, Dr. Hugo Deutsch of Brünn, on the work of the insurance societies in the struggle against alcohol, is of special interest. Dr. Deutsch furnishes much evidence to show that the anti-alcohol crusade is of special interest to the insurance societies and one from which they will derive nothing but advantage. He suggests four principal methods for promoting this work.

(1) Instructing the members as to the dangers in alcohol. For this purpose there is now an abundance of good literature.

(2) Encouraging members to exercise their own influence and that of their acquaintances among the working classes to diminish the use of alcohol after work as well as in the workshops.

(3) The co-operation of the physicians and officials of the insurance societies.

(4) Caring for sick members or those in danger by methods corresponding to the modern treatment of inebriety.

The condition of the working classes, Dr. Deutsch believes, will be improved hygienically, socially and mentally by the abolition of alcoholism.

\*Press Correspondence of the Deutschen Verein gegen den Misbrauch geistiger Getränke, Oct., 1910.



## Relation of Alcohol to Cancer

THE result of a statistical study of cancer published in a foreign journal is cited by the *Journal of the American Medical Association* (Jan. 7, 1911) as bringing out a new point in the causation of cancer. From an extensive study of the vital statistics of Bavaria by a special committee appointed for this purpose, it appears that cancer is distinctly most frequent among those whose trades render them most likely to indulge in alcoholic beverages. This, the *Journal* states, is in harmony with statistics gathered in other countries, which have shown cancer to be most frequent among those selling alcoholic liquors. "If" the *Journal* adds, "the relation between alcoholic habits and cancer is eventually shown to be one of cause and effect, temperance advocates will have an argument which will probably carry more weight with the average individual than any and all of

the excellent reasons for total abstinence which they can now command."

Statistics published by Westergaard in 1901 gave the ratio of cancer per 1,000 in inn-keepers, bar-tenders, general population and professional classes as 53, 65, 47 and 44 respectively.

## Correspondence between Number of Accidents and Size of Drink Bill

A RECENT investigation\* has confirmed a large amount of previous experience as to the casual connection between drink and accidents. Dr. Hugo Deutsch, by careful inquiry covering one year among 2,300 workmen of Brünn found that the number of accidents per 100 rose with the increase in the weekly amount spent for drink. The figures per week were:

Weekly expenditure for alcohol	Accidents per 100
\$0.00 (abstainers) .....	10.3
\$1.10 for alcoholic drinks .....	10.9
\$1.10 to \$2.20 for alcoholic drinks .....	11.2
\$2.20 to \$4.00 " " " .....	11.9
\$4.00 to \$6.00 " " " .....	12.1
Over \$6.00 " " " .....	20.6

Material was obtained also for counter proof. The abolition or marked diminution of alcoholic drinks in various large works has been followed by a marked decrease of industrial accidents.

(\*Press Circular of the German Society of Abstaining Physicians, November, 1910).

## Who is An Alcoholic?

D R. Seiffert,\* Medical Advisor of the Board of Health in Benthen, Germany, has recently written a small brochure on the treatment of alcoholic patients among railroad men in which he gives the definition of an "alcoholic."

Those must be termed "alcoholics" who take alcoholic drinks either in small amounts habitually, or large amounts irregularly. The usual custom is to designate as an alcoholic only those who take large amounts of alcohol habitually. That is wrong because in those cases the question is almost exclusively one of alcoholic disease. But when the disease began it is difficult to tell. The transition of an alcoholic to an alcoholic patient is gradual, unconscious and unnoticed. Before everyone who uses alcohol regularly is not only the possibility but the probability of becoming an alcoholic patient. There is nothing to indicate definitely when he begins the amount that will be his limit. .... The susceptibility and resistance of the brain and other organs to alcohol varies with one's personality and constitution.

\*Press Correspondence of the Deutschen Verein gegen den Misbrauch geistiger Getränke (Oct. 28, 1910).

# Class-Room Helps

Conducted by Edith M. Wills

## Alcohol and the Laborer

The writing of essays on the following and similar topics can but accomplish much good. More still might be accomplished if the children were better trained to see and emphasize only the more important points, quoting authoritative statements or incidents in connection therewith. Feeling also that teachers would find the outlines and classified data helpful not only in essay work but also in class work and reviews, we are glad to furnish these suggested outlines with reliable supplementary matter in other parts of the *Journal*, to buttress the points. Of course, it is not expected that all the topics will be used in any single case.

### Effects Upon the Laborer Due to Personal Use

#### 1. SUBTRACTS FROM "THE JOY OF LIVING."

a. By taking his surplus so that a short period of idleness or sickness reduces him to physical suffering and causes anxiety. Often he is obliged to accept charity.

b. By robbing him of many home comforts such as tasty, nourishing food, good clothing, comfortable, pleasant home.

c. By taking the money for the questionable sense pleasure (and for himself alone) which would furnish him or his entire family with books, periodicals, concerts, outings or unusual delicacies.

Drink in all its combinations adds to every trouble of life and but for it the problems of sickness and old age could be met more easily.—From Mass. Commission on Cost of Living.

"Dr. David Starr Jordan of Leland Stanford Jr. University says, 'The basis of intemperance is the effort to secure through drugs the feeling of happiness when happiness does not exist. Men destroy their nervous system for the tingling pleasures they feel as its structures are torn apart. The evil in drink is not primarily intoxication, but nerve disturbance.' Without doubt the greatest peril of alcohol is to the nervous system."—*Prohibition Press Circular*.

Everything that tends to plunge the working-man into misery is encouraged by alcohol; everything that is working to bring him out of his wretchedness is discouraged by alcohol.—Dr. Richard Froelich, Vienna.

#### 2. SUBJECTS HIM TO UNNECESSARY HARDSHIPS IN CONNECTION WITH HIS WORK.

a. By adding considerably to his fatigue. (See p. 70.)

b. By causing more suffering from exposure (1) to *heat* as in foundries, engine rooms, etc.; (2) to *cold* as in winter work not under shelter.

#### 3. MAKES HIM MORE LIABLE TO ACCIDENTS DUE TO:

a. A certain mild form of epilepsy which causes dizziness or mental confusion.

b. Falls, shakiness, or miscalculations as

to distances among machinery, on railroads, etc.

c. Mental stupidity which allows drinkers to be injured who normally "would have their wits about them." (See data on p. 75.)

In Belgium it is calculated that 43 per cent. of accidents in mines and factories are due to alcohol. (*Alcohol and the Human Body*, p. 100.)

#### 4. TENDS TO CAUSE POVERTY.

a. By lowering the income.

b. On account of enforced idleness due to preventable accidents or disease and sometimes to "groggy" condition after heavy drinking days.

c. By creating an imperious appetite which requires costly indulgence.

d. By inducing improvidence through allied wasteful habits.

e. By burdening the family with sickly children or those which are defective, as epileptics, imbeciles, etc.

f. By lowering resources and encouraging unthrift it deprives him of his capital and thus means to buy a home or little business.

P. M. Arthur, the late leader of the Locomotive Brotherhood, said: "If it were not for the saloons, do you know I think that seven-tenths of the workingmen would have their own homes instead of paying rent? Rum is at the bottom of the whole trouble."

John Mitchell, former president of the United Mine Workers, and the idol of Union Labor, says: "No man has a right to spend a cent upon himself until he has first provided for his family. The average workingman does not yet earn enough to give his family all the comforts they deserve. He has no money to spend on drink without robbing his family. I believe that as the labor movement grows, so will the temperance movement grow."

5. TENDS TO MAKE HIM A POOR INSURANCE RISK thus depriving him and his family of protection against sickness and death or else necessitating excessive premiums.

(The heavy drinker can scarcely secure insurance at any price.)

6. TENDS TO SHORTEN LIFE AND THUS THE PRODUCTIVE YEARS—BRINGS ON PREMATURE OLD AGE.

- a. By producing conditions which encourage under-nutrition, insufficient clothing, and shelter, and general lack of attention to personal health.
- b. By functional or organic diseases directly due to the poisonous effects of the drug; as dyspepsia, fatty heart, indurated liver, sclerotic arteries, epilepsy, etc.
- c. By increasing susceptibility to trade diseases; as lead poisoning in painters, diver's paralysis, etc.
- d. By lowering the body's resistance to germ diseases, as tuberculosis, etc.

#### 7. TENDS TO LOWER EARNING CAPACITY BY IMPAIRING

- a. *Physical efficiency.*
  - (1) Alcohol impairs the strength and precision of the muscles and, therefore, (x) reduces the output of piece work and (y) limits the field of highly-paid manual occupations.
  - (2) Impairs eyesight and hearing (and power of instant perception, judgment, and action) essential to work on railroads, etc.

##### b. *Mental efficiency.*

- (1) Alcohol even in very moderate quantities impairs the quantity and quality of mental work such as reckoning, memorizing, and in a more marked degree, brain work of greater complexity. (See pp. 65, 73.)

- (2) Alcohol injures higher brain centers thus (x) impairing power to attain a high degree of mental training, and (y) judgment and executive ability necessary to large undertakings.

- (3) Tends to impair the ability to do creative work.

##### c. *Moral efficiency.*

- (1) Alcohol undermines character, hence in banks and some other highly paid positions where rectitude and responsibility are necessary, drinkers are refused employment.

#### 8. SERIOUSLY INTERFERES WITH HIS BETTERING HIMSELF.

- a. Impairs personal initiative and saps ambition so that the drinker is often satisfied with meager attainment, poor environment, and low wages.

- b. Impairs will power so that he lacks the resolution to carry out plans for his own betterment when they call for long and persistent effort.

Sir Hiram Maxim has said: "The English workman spends a great part of his earnings in beer, tobacco, and betting; has no ambition.... The American workman wishes to get on; he accomplishes a great deal more work in a day than any other workman in the world."

- 9. AFFECTS HIS CHILDREN UNFAVORABLY.
  - a. Children of drinkers are apt to lack suitable subsistence and, therefore, may not develop properly.

- b. They may lack training of the right sort and may be so poorly environed that they become inefficient, vicious or criminal.
- c. They are likely to be deprived of schooling, (1) on account of insufficient clothing, etc., and (2) because they must go to work early.

A careful investigation of an equal number of license and no-license cities, showed that in the license cities, 17 out of 100 children were being deprived of common school privileges and 47 out of 100 were losing high school training.

- d. They are often of feeble vitality and may be defective mentally.

\* \*

#### Effects on the Welfare of the Laborer Due to the General Use

##### 1. INCREASES THE COST OF LIVING

- a. By causing provision dealers to lose hundreds of dollars in bad debts on account of drinking which loss must be covered in part by putting a higher price on the goods.

- b. By destroying food-grains.

Professor Patterson says that "two temperance people can be supported on the land needed to satisfy the coarser tastes of one regular frequenter of the saloon."—(Warner, p. 97.)

##### 2. LAYS HEAVIER TAXES ON HIM

- a. By lowering property valuations.

Prof. Barker (p. 17) states that the inevitable effect of establishing a saloon is to depreciate the property around it, and cites as example the city of Cambridge, Mass., population 100,000, in which under license from 1875 to 1885 the valuation of property decreased about \$3,000,000. Saloons were abolished in 1885 and during the next 20 years property increased in value \$36,000,000, the population doubled, and the savings-bank deposits trebled.

- b. By decreasing aggregate wealth.

- (1) The wealth producing power of labor is decreased; and (2) much of the money spent for drink is sent to distant breweries or distilleries instead of being spent in the locality.

- c. By throwing a great burden of unproductive incompetents on the public charge.

- (1) Pauperism; (2) insanity; (3) crime; and (4) defectives, epileptics.

The Report of the Massachusetts Bureau of the Statistics of Labor (1895) showed that of the paupers in state institutions 45 per cent. of the total number attributed their pauperism to the intemperance of themselves or others. Of insane in public institutions, of 897 cases where the facts could be determined there were 69 per cent. in which one or both parents were intemperate; and in 1506 cases there were 25 per cent. in which the intemperate habits of the person were considered the cause of insanity. (See Journal p. 17 for full

discussion.) "Of the 160,000 epileptics in America, 32,000 (20 per cent.) owe their affliction to the intemperance of parents."—Rosanoff in *McClure's*, March, 1909.) In the matter of crime the Bureau found that in the case of 84 per cent. of all convictions, the intemperate habits of the offender led to the condition which induced the crime. (See *Journal* p. 17 for fuller discussion.)

### 3. LOWER HIS WAGES BY FORCING HIM TO COMPETE WITH CHEAP LABOR, AS

a. Women and children who are driven into the field because deprived of support by the drinking habits of their natural supporters.

The saloon is the treadmill ever-moving, carrying the children into industrial life when they ought to be receiving an education or playing to develop their physical, mental and moral manhood and womanhood.—John B. Lennon, Treas. Am. Federation of Labor.

While we are trying to bar out cheap labor from abroad the saloon is steadily cheapening labor at home.—Warner.

b. Men's labor forced on the market unduly.

Mr. A. Crosby stated before the United States Senate Commission that the wages of mechanics are set by drinking men who, because of their improvidence, have no economic reserve, and, hence, are obliged to force their labor on the market, where it brings a low price, thus forcing down the wage average.

### 4. CUTS DOWN THE STANDARD OF LIVING AND THUS CAUSES UNDER-CONSUMPTION OF USEFUL COMMODITIES, the Manufacture of which Employs More Skilled Labor and Pays More Wages.

Professor Barker (Saloon Problem p. 10) states that the liquor industry pays a lower rate of wages than any industry with which it can be equitably compared. If the consumer pays \$100 for useful articles, he will give employment for more than 8 times as many days; he will pay nearly 5 times as much wages; and he will demand 4½ times as much raw material as if \$100 were spent for alcoholic liquors.

"A wise man works and earns wages, and spends his wages so that he may work again."

### 5. OPERATES AGAINST LABOR IN ITS STRUGGLE FOR BETTER CONDITION

John Swinburn said: "The use of strong drink has always operated against labor in its conflicts against the unfair encroachments of capital."—

#### Prohibition Year Book.

Richard Trevellick said: "In my work of labor reform I am brought face to face with the liquor traffic. Its infamous power in politics foils all our efforts to secure good laws. I must get the saloons out of the path, so I enlist to overthrow the saloon, to secure the elevation and prosperity of labor."—Prohibition Year Book.

## Why Business Men Demand Abstinence from Their Employees

### Extent of Such Demand

As the result of an investigation authorized by Congress, Carroll D. Wright, Commissioner of Labor, in 1897, made extensive inquiries of employers as to their attitude toward drinking men. The replies which were received from about 7,000 establishments showed among other things:

a. That in hiring new men about 77 per cent. were accustomed to give consideration to habits as to the use of intoxicating liquors. (See back inside cover of *Journal*.)

b. That out of the 6792 establishments the following make some requirements that employees, or employees in certain occupations, shall not use intoxicating liquors:

Of agriculture about 54 per cent.; Manufacturing, 48 per cent.; Mining and Quarrying, 55 per cent.; Trade, 34 per cent.; and Transportation 80 per cent. More than 10 per cent. of all forbade drinking on or off duty.

c. More than half of the 3,621 establishments reporting on this point said that they used the discharge to lessen the trouble from intoxication among employees.

### General Conditions Leading to Such Demand

THE EMPLOYER MAKES A NARROWER MARGIN OF PROFIT than formerly because most raw material has advanced in price; wages are higher on account of the increased cost of living; hours of labor have been much shortened; many states have liability acts which subject him to damages for injuries to workmen. In the case of common carriers, corporations are liable for damages for loss of property and injuries to persons due to the business. In order to meet the new conditions successfully employers everywhere are seeking on the one hand to eliminate all possible wastage and, on the other, to increase the output by installing more intricate and costly machinery and speeding it higher, and by demanding more and better work from the men employed.

### Specific Reasons for Such Demand

#### 1. ABSTAINERS ARE APT TO BE MORE PROMPT, RELIABLE, AND TRUSTWORTHY.

a. Drinkers are more likely to forget orders or the exact details of the same. (p. 65).

b. Drinking favors association with irresponsible, idle, or vicious companions and

often paves the way to gambling and defalcations. (Supt. Western Division of American Express Co.)

2. ABSTAINERS ARE APT TO BE BETTER NATURED AND MORE REASONABLE, thus avoiding friction and possibly serious conflicts.

"The alcoholic, whether a victim of large or small doses, is 'touchy' and 'explosive' when crossed in the smallest way. He is exacting petulant and hypochondriacal." (Cutten, quoting Magnan).

3. ABSTAINER ARE APT TO INCREASE THE AGGREGATE VALUE OF THE OUTPUT because of their unimpaired skill.

The difference between a \$4 and a \$5 shoe is very largely a matter of skilled labor. A drinking man can not do the finest work. It needs clear, alert, active brains. We may put the finest leather into a shoe, but if the fine hand of sober, expert labor is not there, it shows in the product and commands less in the market. (Prouty and Co., Shoe Manufacturers, Spencer, Mass.)

4. ABSTAINERS ARE APT TO WASTE LESS MATERIAL AND TO HAVE FEWER "KNOCK-DOWNS" (i. e., damaged products which have to be sold under price).

"He [the intemperate workman] is not an efficient factor in production. His 'knock-downs' eat up the possible profit on his good work." (David C. Mills, Editor, *Hat Review*, Nov., 1910.)

5. ABSTAINERS ARE LESS LIKELY TO CAUSE LOSS ON ACCOUNT OF WASTE OF TIME.

Employers lose heavily from the waste of time due to drinkers.

a. Drinkers are often absent from the works on account of (1) unfitness for work due to acute alcohol poisoning (drunkenness), as after pay-days; and (2) sickness due to lowered vitality and impaired resistance to disease.

b. The drinking workman often spreads disease among his fellow workmen for, not only is he more likely to contract germ diseases as colds, la grippe, tuberculosis, etc., but by his careless and unhygienic habits he spreads the germs in the factory. (New York *Hat Review*.)

6. ABSTAINERS ARE LESS APT TO BE RESPONSIBLE FOR PREVENTABLE ACCIDENTS.

Drinking increases accidents.

a. *Involving.*

(1) The drinker himself; (2) his fellow-workmen; (3) and others as passengers on railroads, ships, etc.

b. *Caused by*

(1) Impairment of special senses as sight. (Kraepelin, Cutten) and hearing (Sprecht)

(Impaired vision may work damage in three ways—failure to see exact train orders; to read exact time on watch; to see signals correctly.)

(2) Impairment of perception—does not perceive the danger quickly enough.

(3) Impairment of reaction time—does not act quickly enough to avoid the danger.

(4) Impairment of judgment—fails to gauge distances between machines or nearness of cutting instruments, etc.

(5) Sometimes falls without apparent reason (caused by a mild form of epilepsy due to alcohol.)

c. *Results to employer.*

Damages for (1) loss of property, as cars, engines, or other machinery; (2) for injuries to workmen under employer's liability laws; (3) for injuries or loss of life due to business of common carriers, as railroads, etc.

7. ABSTAINING WORKMEN ARE APT TO BE MORE PROFITABLE.

Abstainers are likely to be (a) better clothed, housed, and fed; (b) to be more vigorous and have greater endurance; (c) to have greater application; (d) to be more self-respecting and ambitions; (e) to be in every respect, more efficient. (For full discussion of this topic see pp. 77-8.)

Professor Helenius was informed by Captain Pethrick, the manager of the copper mines of Knockmahon,.... "that more than 1,000 persons are daily employed, of whom 800 have taken the total abstinence pledge. Since doing so, the value of their productive industry has increased by nearly \$25,000 per annum; and not only are they able to put forth more exertion, but their work is done better and with less fatigue to themselves. Besides this they save at least \$36,000 every year which had previously been expended in the purchase of alcoholic liquors.—*Die Alkoholfrage*.

**LESSON SUGGESTIONS**—The preceding lessons together with the material furnished elsewhere in this *Journal*, will supply an abundance of material useful for lesson schemes, for reviews, or to buttress teaching on various topics.

The quotations from various labor leaders will serve admirably for spelling or dictation. Some sections will furnish examples for the arithmetic classes; e. g., that one relating to the burden of incompetents. Let the children figure out the cost of the pauperism, etc., in their own state or city using the percentages given. Remind the children that those who do not drink are obliged to help pay these extra taxes. Use some of the topics for debate; e. g., Resolved, that the employer has no right to dictate what his workmen do outside of work-hours.

In advanced classes the topics may be placed on the blackboard and the pupils directed to get information from employers, newspapers and government reports, etc. Save the clippings and data thus obtained for further use. This method will serve the double purpose of linking the lessons or essays with everyday life and of causing most pupils to notice similar items in all later reading.

Use the charts given in this and the January *Journal*, leaving them in view where their lessons may be absorbed.

In younger classes use mainly the topic showing how and to what extent the use of alcohol tends to injure one's chances of success. A few other points may be touched lightly but definitely.

# Employers Who Prefer Non-Alcoholized Workmen

From the Report by the U. S. DEPARTMENT OF LABOR of an investigation authorized by Congress, 1897.

*Diagonal lines represent employers who do consider an applicant's drinking habits.  
Vertical lines represent employers who do not consider an applicant's drinking habits.*

Whole Number of Establishments Reporting

5363 - 77%

1613 - 23%

Miners and Quarrymen

668 - 56.5%

513 - 43.5%

Agriculturists

581 - 72%

229 - 28%

Manufacturers

2940 - 79%

783 - 21%

Trades

471 - 88%

64 - 12%

Transportation

703 - 98%

14

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Federation, Boston.

The higher the grade of service required, the more rigid is  
the discrimination against drink.  
"Cold blooded business recognizes that a brain befuddled  
by intoxicants is less valuable than one that is kept clear."



# SCIENTIFIC TEMPERANCE JOURNAL

— *Continuing the* —  
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By James Oppenheim

THE young man spoke to the President of the Board of Education. "What are you trying to do in the schools?" "We are equipping children with knowledge—teaching them how to earn their way in the world." But a young teacher added: "We are fashioning our children into souls of beauty. We change the world by changing the people in the world—we are creating a new race."

\* \* \*

"Stone by stone, mankind is building a new Earth; a mansion of many chambers, wherein are warmth and comfort, toil and play, school and home, and every room has doors open unto every other room. Soul by soul, it is building a new Humanity; it is making man after the pattern of strength, beauty and love. And in that mansion these mortals shall gather—the children shall fill its heights with laughter, the men set its walls resounding with excellent labor, the women touch it with the grave miracle of motherhood. Harmoniously they shall live and toil and play. And the name of that mansion where these mortals are to dwell? . . . No man yet knows."—American.

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FEBRUARY, 1911

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# Scientific Temperance Journal

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No. 6

## The Power of Truth

**I**N our views and in our practice as a nation, there is something fundamentally wrong; and the remedy, like the evil, must be found in the correct application of general principles. It must be a universal and national remedy. What then is this universal, natural, and national remedy for intemperance? It is the banishment of strong drinks from the list of lawful articles of commerce, by a correct and efficient public sentiment, such as has turned slavery out of half our land, and will yet expel it from the world.

—John Wesley in 1773.



## The Physiological Verdict\*

BY PROF. W. A. OSBORNE, M. B., C. CH., D. SC.

**A**T THE present day, thanks largely to the fact that the medical profession, or at any rate many members of the medical profession, have seen their way to join the ranks of those who are fighting against alcohol, we find in the temperance literature, which is now so widely distributed, sane and modern thought and scientific advocacy of temperance efforts.

Most people who read a little nowadays are aware of the fact that the chief constituents of the human body—as of any animal body—are nitrogenous substances or proteins, fats, and mineral matters.

But quite within recent years a new class of body substance has been discovered, and has been elevated into first-rate importance. This new class is termed “lipoid”. Its importance is immense. It is quite as important in the body as the nitrogenous or albuminous material which is present in every living tissue. It is very like a fat in many respects, but in other respects it is divergent. It contains nitrogen, which fats do not. It contains phosphorus, which fats do not. Again, it mixes with water, which, as is well known, fats do not. It has certain remarkable properties, in that it can make certain bodies soluble which are otherwise not soluble.

If you ask me where is lipoid found in the human body, I might reply by asking where it is not found, for it is a native constituent of every living tissue in the body.

The whole of the animal body is compounded of units which have been termed “cells.” Now it has been found that the wall of every cell in the human body is largely compounded of lipoid. As a striking example

I may mention the red corpuscles of the blood, which act like so many little boats containing the red colored matter, and therefore enable the blood to carry gases from one part of the system to another.

The wall of the red corpuscles and of practically every living cell in the whole body is made chiefly of lipoid and it is found that there are strands of this material running through and through the substance of each cell. In fact, there is no region of any cell in any part of the body that is without this material.

Perhaps the largest accumulation of lipoid is that in the nervous system. There is far more lipoid in the brain than in any other tissue. If you examine a nerve, or what is called by physiologists a nerve trunk, you will find that this nerve is composed of many thousands of nerve fibers and that each nerve fiber which conveys messages into or out of the brain is invested with an insulating jacket of lipoid and thus the messages are prevented from spreading and from losing their effect.

It may be asked, “What has all this to do with alcohol and temperance?” The connection is a very important one, for only a few years ago two physiological investigators—one with the English name of Overton and the other with the distinctly German name of Hans Meyer—without collusion and without knowledge of each other’s work, made one of those discoveries which at once clears up a whole host of problems. They discovered the principle that any substance which dissolves lipoid, or, what is the same thing, is dissolved in lipoid, is an anaesthetic. Chloroform, ether, and all those agents which are used in modern surgery to produce unconsciousness are dissolvers of lipoid, or are themselves soluble in lipoid, for from the chemical standpoint the two are the same.

\*Abridged from a lecture delivered in Melbourne under the auspices of the Victorian Branch of the British Medical Temperance Association. Reprinted from the *Alliance Record* (Melbourne).

Then the generalization was extended. Besides acting as anaesthetics, such substances also act as poisons to every living cell in the body. Not only does chloroform lull the consciousness to sleep but it depresses every organ of the body as well. The brain, owing to its high percentage of lipoid, is more sensitive to the action of chloroform than other organs of the body and therefore the first and most obvious paralysis is the paralysis of consciousness.

Now we come to the next point. When chemists and physiologists found that alcohol is soluble in lipoid, it was to them sufficient warrant for ranking it as a narcotic poison, and hence it is now so classed without any apology whatever. This statement is altogether irrespective of the effects it will produce in an animal.

What will those effects be? We find that any substance that interferes with the lipoid of the body interferes with the activity of the tissues. Lipoid has many functions to perform. Among others, it acts as a binding wall enclosing the cell contents and preventing them from escaping. Take, for example, the case of the red corpuscles. The red material is held in the corpuscles by a coating of lipoid. Shake up a little alcohol with some blood and the corpuscles simply vanish. Naturally no one would imbibe alcohol to that extent or death would ensue very quickly.

Again, we find that if the lipoid which runs through and through every cell is interfered with, the whole mechanism of the cell is impaired. Lipoid is an essential ingredient. It is one of the essential structures present in each cell of the body, and when alcohol or chloroform or any of those substances comes in contact with it, it alters it physically and chemically—it is no longer the same thing.

Lipoid subjected to alcohol has no longer the same physical properties and that is why all these substances have poisonous effects on every tissue of the body. And just as we class chloroform and ether and these other bodies as narcotic poisons, as general poisons but having a primary narcotic action, so we must rank alcohol with them.

It is unnecessary for me to go into the very elaborate tests that have been made in recent years in connection with the action of alcohol on the different organs of the body. But if there is one thing which the imbiber of alcohol believes, it is that it is a stimulant, and that under the action of alcohol he has greater muscular powers and also greater mental powers. This is a thing not to take anyone's word for—we never take anyone's word in scientific work.

The investigations of the greatest of the world's physiologists, and I may mention German scientists specially, now unanimously agree that the use of alcohol to give muscular strength is completely irrational. Not only muscle, but every gland in the body is in the same category. We are now standing on the firm basis of our lipoid chemistry, and can speak more broadly on the subject. Take the nervous system. You are aware that the nerve system ramifies throughout the body, bringing messages from the organs into the brain, the brain being looked upon as a sort of central exchange, receiving messages and switching them on to the nerves that go out of the brain. It is a mistake to think that the brain creates messages. All it does is to switch incoming messages into outgoing channels. There is a continuous incoming of messages, and these messages are classed together in the brain. We find that practically every organ of the body is under discipline through the nervous system. . . . .

We have to regard alcohol as a paralytic or narcotic agent entirely,—and if you investigate the reasons why people take it, you will find invariably that it is really for the paralytic, rather than for the stimulant action.

The feeling of fatigue which we all experience is a very healthy symptom. It is a little message from nature saying that we are overdoing. If alcohol is taken you cut off and stop that nerve message.

The engineer on board a steamer who tells you that his boilers are magnificent boilers because they never give too high or too low a pressure, but who, you find upon investigation has tampered with the pressure gauges so that they do not show the correct steam pressure occupies the same position as a man who explains his feelings under alcohol.

If that perfectly legitimate normal feeling of tiredness which is a sure sign to stop some particular form of work—mental or physical—be wholly removed, a very important regulatory mechanism of the body is cut away. And it is just because a person, when that feeling of tiredness is cut away and the nerve messages no longer reach him, feels that he has been truly stimulated, that he resorts to activities to which normally he would not resort. It is really the paralysis of a certain variety of nerve impulses.

I would like you to think of the body when alcohol is circulating in it as being interfered with in a way illustrated by that French expression, which is on the penny-in-the-slot weighing machines—"Please don't brutalize the machine."

## The March of Progress

By PROF. R. HERCOD, LAUSANNE,  
SWITZERLAND

THE brilliant success of the referendum upon Prohibition organized by the SWEDISH Abstinent societies has excited the admiration of the anti-alcoholic world. In a population of 3,400,000 inhabitants over eighteen years of age, 1,900,000 voted in favor of total prohibition, a small minority against it. The abstainers in Sweden number 500,000, nearly a tenth of the population. The Swedes are wise not to abandon the work of education in the midst of their agitation for legislative measures. They have in particular organized courses of anti-alcohol instruction which far surpass any on the continent. When it is added that fifty of these courses have already been given, attended by hundreds and even thousands of auditors one can estimate the extent of the Swedish movement.

### NORWAY

NORWAY is preparing for legislative reforms that will approach the goal toward which the anti-alcoholists have been working, total prohibition. A commission of inquiry—partly parliamentary, party governmental—has begun its work. Abstainers are represented on it by several of their most capable leaders. The direction of the cause of prohibition will be in good hands.

The last municipal election showed the strength of the abstainers in several towns. The capital alone remaining an unpromising field.

### ITALY

IN ITALY Professor Zerboglis has presented in the Chamber of Deputies a proposition, very well received, upon the necessity of undertaking the fight against alcoholism. A ministerial sub-commission organized by the attorney general, Calabrese, has presented radical measures for preserving children from the contaminating effects of alcohol. The president of the council, Minister of the Interior M. Luzatti, had an inquiry concerning alcoholism made by the chiefs of police. The National Congress against Alcohol held in Milan, Oct. 30 and 31, was a veritable success. It augured well for the future of the movement to see the chiefs of the socialistic party—convinced abstainers, take an active part.

### GERMANY

Germans are called slow. Perhaps! but once they perceive an ideal to be right, they strive to realize it with a tenacity of which Latins are jealous. The anti-alcohol movement is now solidly established in Germany. It has enthusiastic adherents and knows how

to secure the favor of the authorities. The Society Against the Abuse of Spirituous Liquors with a large and active Bureau in Berlin is not alone in gathering laurels. The abstainers are reaping their share. Emperor William recommends abstinence to the naval cadets. The first burgomaster of Ausbourg in Bavaria assisted at the Congress of Abstainers. Four hundred thousand signatures were obtained to the petition in favor of local option to be presented to the Reichstag. A special Journal on this phase of the question has been started. The German women have rallied to the reform.

### FRANCE

IN THE French Chamber of Deputies, M. Joseph Reinach has taken up a project of limiting license and has secured a report that is a veritable encyclopaedia on the question of alcoholism in France.

M. Prof. Aubert has laid before the Minister of Education the answers to some 65,000 circulars of inquiry and from them has made an interesting report which throws light upon the profound ravages that alcoholism is making in France and the various remedies direct and indirect that are being opposed or that should be opposed to the evil.—*Translated for SCIENTIFIC TEMPERANCE JOURNAL.*



## Temperance Education in Canada

AMONG the resolutions adopted at the big annual convention of the Ontario Branch of the Dominion Alliance, held at Toronto, Feb. 14-16, looking toward the further curtailment of the liquor traffic and the increase of public intelligence was the following passed by a unanimous vote:

"Whereas it is of permanent importance that the youth of the nation be thoroughly educated to intelligent sobriety, forewarned with knowledge of the nature and effects of alcoholic beverages; therefore, be it resolved:

"That we respectfully urge the Department of Education to give this subject, as a part of physiology and hygiene, a definite time and place among the subjects required for promotion of all pupils in all public schools of this Province."



## Alcoholism and Pneumonia

PROF. G. MILTON LINTHICUM, M. D., Baltimore Medical College, in his presidential address to Medical and Chirurgical Faculty of the State of Maryland, said that the predisposing causes of pneumonia (which causes 11 per cent. of all deaths in the United States) have been observed to be those things which lower the vital resistance, such as alcoholism, acute or chronic, exhaustion, exposure, and insufficient clothing or food.—*Jour. of American Medical Association* (June 4, 1910).

## The New Knighthood\*\*

NOT even yet, my friends, do all the people fully realize the immense importance of health, of mental and physical efficiency. It must be repeated again and again—No public welfare without public health. The richness of material and mental possessions, the best means of good breeding, and the greatest freedom of the citizen are all of no value if the people concerned are not physically sound and mentally efficient.

The ideal aim of all culture is a society of men who are independent in observation, independent in reasoning, mentally free, and voluntarily devoted to the service of all.

Men are, of course, not born with mental and moral personality. There is born only the material out of which this must be formed by the art of training. But the highest train-

ment of the germ plasm. If men far past the prime of life marry very young women, as frequently happens in the higher classes of society, two injurious factors come together and furnish us a sufficient explanation of the sudden degeneracy of a generation.

Very long continued inbreeding, also, is, as we know from stock-raising, exhausting to fertility, while moderate and not too long inbreeding with sound and virile strains appears to have very favorable effects even in men. All races that achieve greatness appear to have had an origin of this kind.

Every serious weakening of the parental body may weaken the vitality of the germ plasm. Such are the effects of continuous insufficient diet, physical strain through long-continued muscle work, the bearing of too



FROG'S EGGS AFTER SIX DAYS\*

More Tadpoles hatched in water containing no alcohol.

ing is impossible with sick men, with inefficient and unsound brains. Not until it has become entirely clear to us that the whole intellectual and moral personality have their objective point in the brain and the character of its operations, only then have we fully grasped the fact that the destiny of a people depends upon to what degree they beget sound children and train them to healthy manhood. .... Well built and rightly acting brains are therefore first of all necessary if the human being is to succeed.

Rudimentary as our present knowledge of this subject [Eugenics] unfortunately is, we already know a few things which cause injury to the germ plasm during the period of growth. We know that extreme youth as well as advanced age of the parents are unfavorable for the nourishment and develop-

many children, or births coming too near together; also sexual excesses. ....

Mental overwork is often looked upon as particularly injurious to the generative functions and there are many authors who attribute to that cause the dying out of the higher classes. I feel, however, the absence of actual proof that intensive mental work is really the cause of the trouble; and opposed to that theory I find, especially, the example of the Jews who have not lost their fertility although for many hundred years they have engaged in intensive and exacting mental and mercantile activity.

Chronic illness may be very harmful to the germ plasm and the after effects may continue for a long time. Particularly dangerous to the descendants are those infectious diseases

\*\*Extracts from a lecture given April 25th, 1908, under the auspices of the Central Association for Combating Alcoholism, Berlin.

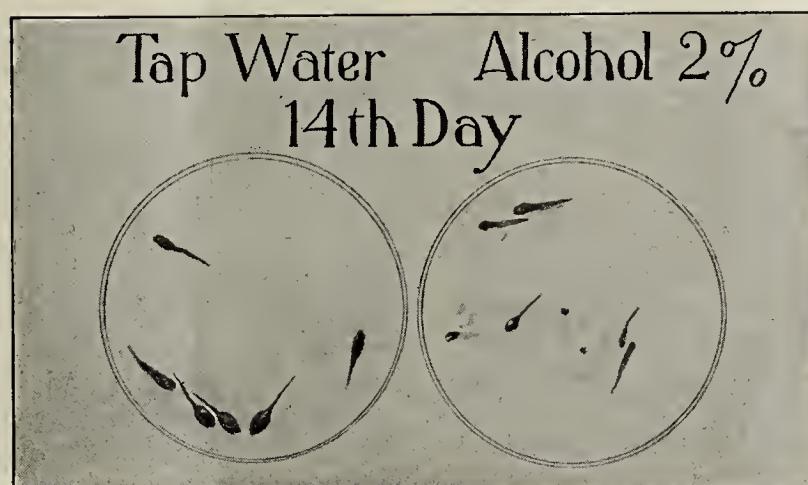
\*Experiments made by Dr. Adam Eccles of England. (See page 96.) Illustrations from *Emergencies*, Gulick Hygiene Series, courtesy of Ginn & Co., Boston.

which may strike directly at the embryo, as is the case with syphilis.

Most destructive to the germinal material are certain poisons which may be carried to them by the fluids of the parents. We know a whole series of such germ poisons, such as lead and quicksilver. Their drastic effect upon the unborn is proved by the large number of abortions and deaths due to lack of vital energy; the weakness, sickness and misery among the progeny of those who work in these poisons is evidence thereof. This fact has led to legislation forbidding women to work in lead and quicksilver. ....

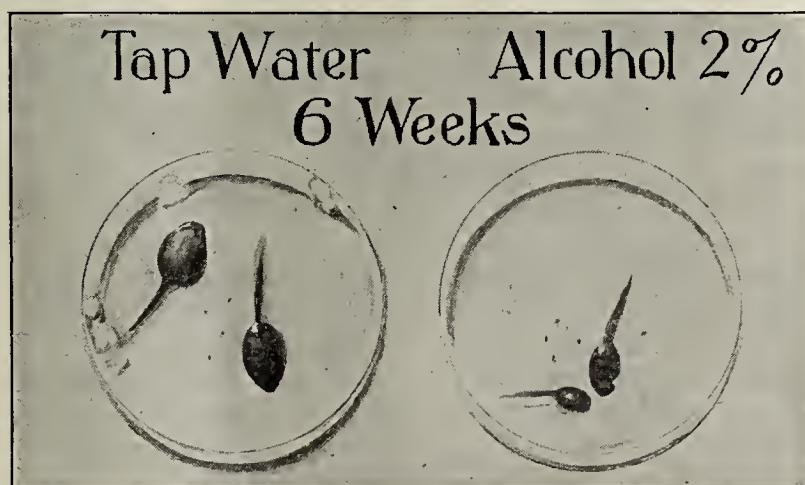
mortality from alcohol. The early death means a long preceding time of diminished efficiency and of invalidism, a premature impairment of physical and mental power and industrial ability of the bread-winners, of the husbands and fathers. Injuring the economical conditions leads to neglect in the training of the children. ....

So far as heavy intoxication is concerned, times have improved. Not many centuries ago it was customary in Germany, even in the best society, for men and women to drink at mealtime until they fell under the table. That kind of alcoholism, it is fair to assume,



[The writer here discusses the relation of alcohol to degeneracy and longevity, quoting facts well known to our readers, and continues:]

has happily ceased; but I am very doubtful which is hygienically and morally the worse, such immoderate drinking or the present customary chronic stupefying with alcohol, this



Can we doubt that an injury to the body of a parent which shortens his life from five to ten years has an effect on the germ plasm?

But apart from the immediate injury to reproduction, what an immense amount of avoidable pain and misery and loss of life and property is involved in the increase of

steady source of relaxation and inertia and aimlessness, of will-weakening and despondency, and of craving for pleasure without exertion. There is no doubt in my mind that the increasing tendency to divorce and desertion of children is in large measure but a symptom of this alcoholic depravity and I

hold this moral deterioration to be worse than all the other evils that alcohol causes.

And in addition to all this, let us consider that our people spend annually about 3000 million marks, the working classes at least 10 per cent. of their total income, for alcoholic drinks, and thereby deprive themselves of many necessary things—proper food, good housing, faithful care of children, recreation in the open air.

Are not all of these considerations powerful enough to rouse us? Shall habit, fashion, effeminacy and self-delusion continue to be the stronger and hold us to the present customs?

I must say that I hope for nothing better from our old people. But the young, in them I put my trust. There are yet among them enough who are high-minded and strong, to whom one needs only to show a noble aim in order to arouse all their energy.

What nobler aim can there be than eugenics? It means maintaining and increasing the best. The hitherto apparently unavoidable tragic connection: intellectual productivity, physical sterility, must cease; a lasting bond must be found between culture and health.

The fight against the drinking customs is only a part of the great task, but one of the most important. ....

Our confused, unbridled, and aimless

times need a new ideal. Here it is! A band of youth! A new spirit is necessary! Alfred Plotz has expressed this very beautifully. He says: "We need a new spirit of knighthood in its highest and purest form. We must look upon ourselves as knights of life, knights of sound, vigorous and beautiful life, out of which all earthly happiness comes and from the striving for which alone, if general, we may hope to have in the future what men left behind them in the golden age.

"The inspiration of higher knighthood devotes itself at all times to the service of humanity, to the love of mankind, to the protection of the weak and to the promotion of physical and moral beauty, activity and the warfare in the service of ideals. This knighthood toward which all noble natures tend of themselves, we must place at the service of our ideal in the generating of a physically, mentally and morally perfected mankind. From that will come the ideals we need for our selves and for our descendants; enthusiasm for human perfection not only in respect to goodness, but, also, health and strength, inspiration and inspired deeds."

The weak and the lazy, the effeminate and the cowardly must die out, voluntarily and involuntarily.

The world for the vigorous, the efficient and the good!—*Translated for the JOURNAL.*

### The Conversion of Vania

#### A SIDELIGHT ON THE RUSSIAN

THE day after a church festival is always the feast of St. Lombard. Outside all the pawnbrokers' establishments in Moscow, one sees crowds of poor people drawn up in line, men, women, children, but mostly women. It is a pitiable sight. Each person is carrying the article to be pledged, and whether it is a samovar or a chair or a petticoat or a pair of trousers, it is never wrapped up. Russians are not ashamed. The long queue which I saw near the Tverskaya street, the day after a pilgrimage to the Shrine of Sergievo, would have been thought a disgrace to any English city, but the Russians looked on with equanimity. And to walk from end to end, from the pawnbroker's door to the last person who had just hurried up with a pledge, was like reading a chapter from the darkest pages of Gorky.

One poor woman seemed to me weighed down with responsibility. She had a copper samovar under her arm, and I asked her what misfortune had overtaken her. It was the old story—her husband was a cabman, he ought to have taken no holiday the day before, the streets were full of people, and he might have

#### NATIONAL LIQUOR MONOPOLY

had many fares; but he had gone to a tavern in the morning, and spent all his money and fought with a man, and had been arrested by a gendarme. I asked her how much she would get on her samovar. "Seventy-five copecks, barin," she replied. "Have you got another samovar?" I asked. "No, barin, we shall have to borrow water; I don't know what the table will look like without the samovar; it won't be home without it; it has always been on the table; it was my mother's; and she gave it to me when I was married. I am sure we shall never have good fortune after the samovar is gone." I lent her seventy-five copecks—one shilling and sixpence—and told her to take her beloved samovar home again. She accepted without hesitation. She put the samovar down on the pavement, and embraced me with both arms. "Bless you, barin, the Lord bless you; come along and have some tea."

I went to her poor little home, two rooms, in which there was no furniture beyond the bed, a table, some boxes and the ikons. Two pallid, starved daughters, girls of thirteen and sixteen, smiled sweetly, and made themselves happy over our party. I had bought some

barankas—dry Russian biscuits—*en route*.

The woman told me the story of how her husband had nearly been cured of drunkenness by God. A year or two ago a most holy priest at Sergievo had been empowered by God to cure drunkenness. Thousands and thousands, tens of thousands of drunkards, had made pilgrimages from Moscow and Kiev and Odessa, and the country had been cured by the priest by miracle, and Vania had gone from Moscow, and had been a whole month sober because of the prayer of the holy man. Then suddenly the holy man was removed and Vania got drunk again.

It was like this. Vania went on foot to Sergievo and saw the monk. First he was anointed, and then received Communion, and then he went to the priest's house, where he had to tell his story to the holy man. Then they prayed before the ikon that God would have mercy upon Vania. After the prayer the priest rose and said: "God knows now that you want to become sober and lead a new life. You must remember that He is looking at you particularly, just as He would a new plant that was beginning to bud. Today He sees you all white and beautiful, and He says to the angels, 'Look at My servant Vania, how well he is living.' Each morning and evening God will say how much brighter and more beautiful he is becoming."

"Glory be to God!" replied Vania.

"Now," said the priest, "for how many days can you keep sober? For how many days can you live without touching a drop of beer or vodka?"

"For ever, a thousand days," replied Vania.

"A thousand days is only three years; it is not for ever," said the priest.

Vania blinked his eyes.

"You must kneel on your knees and swear to God that you will not drink," said the priest. "But if you break the vow, it will be very dreadful."

"Yes," said Vania; "I shall swear it."

"You are very weak," said the priest; "you must pray God each morning when you get up, and each night before you go to bed, that He may give you strength. Perhaps you will fail, perhaps you are lost; but God is going to give you a chance. He's going to watch you for one week first, for one little week. You must swear to God that you will not drink vodka or beer for one week."

Vania on his knees repeated the oath.

"Rise now, Vania," said the priest: "I think you will keep this little oath; but if you feel you can't you must come straight to me, and I will release you. You mustn't break it. I can let you off quite easily if you come to me. But if you break it, God may strike you dead,

or He may give you to the devil. The devil would be very glad to have you, Vania, but it would be very bad for you. Today is Sunday; I shan't be angry if you come to me tomorrow or on Tuesday and say: 'Release me, father.' I will then release you, and pray God to have mercy on you, and to send angels to help you."

Vania went away, and kept his vow on Monday, Tuesday, Wednesday, Thursday; but on Friday, a very cold day, he wanted a drink very badly. Comrades laughed at him, too. He drove up and down the city, and got only one little fare the whole morning. There were fifteen copecks in his pocket. He might get two glasses for that. Every tavern tempted, and the devil seemed waiting at every tavern door. At two o'clock he drove home quickly, and gave the fifteen copecks to his wife; at half past two he rushed home again and begged the fifteen copecks back. He got them, and went straight to a vodka shop to buy a little bottle. He entered the shop, placed his little bottle on the counter, and asked for vodka. The woman behind the railing of the "monopoly" counter stepped back to pick out what he wanted, and at that moment, Vania, all of a tremble, looked up and saw the holy ikon—a figure of Christ—in the shop, staring at him. The woman, when she brought the bottle, thought the customer had a fit, for he suddenly shivered and bolted from the shop.

"O Lord, have mercy!"

Vania went home and prayed, and successfully resisted temptation for ten days, and very proud he was at the end of that time that he could so return to the holy man. The latter praised him and hung a sign of God by a little chain round his neck.

The priest prayed with him again, and sent him away for a fortnight on the same conditions.

Vania was sober in this way for a whole month, and all his family with him, and he prospered with his cab and bought their furniture out of pawn. God was evidently very pleased with Vania.

But at the end of that time a catastrophe happened. Vania went to the shrine to be re-confirmed in his new life, and behold! the priest was not there any more. He had been removed by the bishop, and no one knew where he had gone. There was weeping and gnashing of teeth and unutterable sadness and despair among the crowds of drunkards.

The Government, hearing of the success of the priest, and noting the diminution in the sale of vodka, had suppressed the holy man, in order that there might be no shortage in the treasury. There was the interest on foreign loans to pay.—*The Vanguard*.

## Self-Drugging

**T**HERE is an old saying that "At forty a man is either a fool or a physician."

Such a statement will not hold good in these days of specialism. .... [We now understand that] self-dosing is expensive and dangerous. The man who doses himself with patent nostrums, who seeks every possible avenue of relief before consulting a trained physician, pays the highest price for the poorest service. He puts his hand into a sort of medical grab-bag, and if he draws only a harmless or useless nostrum he is lucky. Quite frequently he draws a narcotic poison, besides losing valuable time, when proper medical treatment could do much to check commencing disease.

### DANGERS AND FALLACIES ATTENDING THE USE OF NOSTRUMS

1. Ignorance of the patient regarding the real nature of his malady. Even a physician cannot properly treat himself for a serious ailment; his judgment is impaired when considering his own trouble.

2. Absurdity and mendacity of the claims by nostrum vendors. The promise of "cure" in conditions for which the most eminent scientists throughout the world have been unable to find a cure. There are many diseases which yield to intelligent medical treatment and supervision, but are not curable by any single drug or combinations of drugs.

3. The promise that a single remedy will cure a multitude of ills of diverse character requiring diverse methods of treatment.

4. The presence of large percentages of alcohol in many nostrums, rendering them injurious in most forms of disease, and likely to promote the formation of the alcohol habit.

5. The presence in such remedies of narcotics or dangerous drugs—opium, cocaine, acetanilid, phenacetin, caffein, etc., the use of which in unskilled hands is not only immediately dangerous, but encourages the formation of drug habits.

### NEED OF FURTHER SAFEGUARDS

The Food and Drug Act is being vigorously enforced to protect the public from some of the above mentioned dangers, but our laws both State and Federal, are still inadequate in their scope, and inconsistent in their terms.

The sale of cocaine, opium and other poisons in ordinary powder, pill or solution is prohibited except upon a physician's prescription, and it is not lawful to refill such prescriptions. But "Asthma Cures," "Catarrh Cures," "Consumption Cures," "Tobacco Cures," "soothing syrups," headache powders,

soda-fountain "pick-me-ups" with fancy names, and many nostrums containing opium, cocaine, and other habit-forming or poisonous drugs, may be freely purchased and have quite as much power to injure the purchaser as in the form prohibited by law.

As State and Federal laws now compel manufacturers to so label their products as to indicate the presence of narcotic drugs the public can no longer plead ignorance as to these dangerous preparations.

Do not use any remedy that contains opium, cocaine, chloral, acetanilid, phenacetin, caffein or even alcohol, without consulting a physician. Do not take the advice of the man on the street regarding your health even if he does know on which side of the body his liver is located, which is highly improbable.

Treat that delicate mechanism, your body, as respectfully as you would your watch. Keep it "in tune" as you do your piano.

### NARCOTIC DRUG HABITS

It has been estimated that from two to four per cent. of the population in this country are addicted to some drug habit. The amount of opium (exclusive of smoking opium) consumed in the United States per capita has been doubled within the past forty years. Cocain, which has only been in use about twenty-five years, is now consumed to the amount of 150,000 oz. per annum.

Surely drug addiction is quite as serious a problem as the hook-worm disease or typhoid fever. ....

An unstable or defective nervous organization, whether inherited or acquired, offers the least resistance to narcotic slavery. Nerve centres enfeebled by overwork, or poisoned by the toxins of disease eagerly welcome opium or cocaine as a "prop".

Drug habits are not always established by the use of patent medicines. In the past it has been a common custom to have prescriptions for anodynes or narcotics that were necessary in some painful condition repeatedly refilled. Such prescriptions would often be handed over to friends with the best of intentions but with lamentable results. ....

The attempt to escape trivial physical pain or the ordinary worries of existence by the use of narcotics is an attempt to cheat in "playing the game".

The habitual use of narcotics is comparable to borrowing money at usurious interest rates. The longer the practice is continued the heavier becomes the burden of debt to nature until finally physical bankruptcy ensues.

### THE DRUG HABITUE vs. THE STEADY DRINKER

Since alcohol is now known to be a narcotic drug, is there any real difference between the "drug fiend" and the daily user of alcohol? Chemically speaking, there is little difference except that alcohol is a direct tissue poison while most other narcotics are not, but exert their evil effects by disturbing the functions of the body. Generally speaking, however, the drug addict is on a much lower moral and physical plane than the average so-called "moderate daily drinker."

Whether rightly or wrongly, society has always countenanced daily drinking within certain limits. The man who keeps this indulgence within such bounds that he is not noticeably under the influence of liquor, is not socially condemned, and no stigma attaches to him. The use of other narcotics—opium, cocaine, etc., however, is socially condemned as a secret vice, and a stigma attaches to such indulgence.

Persistence in the use of narcotics, therefore, indicates a much lower degree of moral and physical control than usually obtains in the average steady drinker.

It is probable that occasional moderate indulgence in alcohol for social purposes will continue indefinitely but there are signs that with a more general understanding of the fact that alcohol is a narcotic drug and not a normal food or beverage and that the man who *must* have his daily drink is really a drug addict, daily drinking as well as obvious intoxication will fall into disrepute. When that time comes, the daily drinker will be drawn from the same class as the drug addict. . . .

There are no magic "cures" or specifics for the relief of narcotic habits. Especially avoid all "mail-order" cures, or in fact, any drug or medicine that is advertised as having the power to cure drug addiction. Regular medical treatment can do much for such cases if the patient will come earnestly and sincerely seeking a cure, but the treatment is not so much a matter of drugs as of general measures to restore a broken and battered nervous system to self-control and self-confidence.—Extracts from Bulletin No. 4, Medical Department of Provident Savings Life Assurance Society.

### SUGGESTIONS TO TEACHERS

AT least once a year the older pupils should have a lesson on the dangers of opiates and "patent" medicines. For this purpose use the outline given above under "Dangers and Fallacies Attending the Use of Nostrums".

For illustrative matter use the following data: *Journal* pp. 88-90; "The Great American Fraud," *Collier's*; the government bulletin on this subject and matter in current periodicals.

### How and When Manhood Becomes Handicapped

BY WILLIAM LEE HOWARD, M. D.

**A** SHORT time ago a young man was brought to me to see what I could do for his attacks of dipsomania—going on periodical sprees. He was a very brilliant man. At times he was employed on leading metropolitan papers. "At times," I say, because just so often he would disappear in the midst of important work, and sink to the gutter. Everything had been tried—"cures," sanitariums, the prayers of his sorrowing mother, travel, and the family physician. After these various methods failed he had been treated by the church psychotherapeutists and striven eagerly and earnestly to aid them in their well-meaning work. But, of course, when the uncontrollable impulse came to submerge his awful feeling of physical and mental helplessness, he was swept into the torrent of degradation and carried under.

A careful and minute investigation into his history brought out the following facts: When he was a babe his mother was so engrossed in her social duties—God save the mark—that he was turned over to a young woman to nurse. She is alive and I sought her out. She is a German and always accustomed to drink beer.

While nursing this baby boy she drank beer; constantly consumed large quantities of it, and at times gin, "to keep up her strength", she told me.

"Ever give him soothing syrup?"

"Oh, yes! When —— was a year old, he became fretful at night, and, as his mother did not like to hear him cry, I gave him some 'quieting drops'."

Now the neurologist can see the whole trouble as clear as a signal light. I have had a score of just such cases.

Every delicate nerve cell, plastic, just growing, developing in this little babe, was constantly poisoned by alcohol or some form of opium—the "soothing syrup". The more these nerve cells absorbed the more they demanded, and what was a pitiable cry in infancy for a stimulant became in adult age an imperative, uncontrollable demand for artificial aid to ease the most horrible pain a man can suffer—emotional depression.

So the child grew to manhood handicapped by nerve cells—the human battery—that could not possibly run his big body and brain except at short periods. He was bound to be stalled while running well along life's road.

(Continued on page 90)

# Scientific Temperance Journal

Founded by Mary H. Hunt

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## The Permanent Remedy

THE discovery of the disease germ and the means of combating it, the growing interest in better social conditions and in the possibilities of the new science of eugenics, have greatly improved the prospect of a speedy betterment of the human stock. But the desired end will not be gained without a more general recognition of and campaign against one of the most powerful causes of physical deterioration—the habitual use of narcotic, or nerve-impairing drugs.

There is some truth in the objection occasionally heard, "If you take away alcohol people will use something else, opium or cocaine." Undoubtedly they will if the causes which underlie drug habits in general are allowed to remain. This, however, is not necessary in our present stage of advancement.

Among the various causes, and therefore points of attack in the battle against drug-habits, three stand out much more prominently than the others: unhygienic living, bad example, commercial aggression.

Unhygienic living, whether a matter of under- or overeating, under- or overworking, the dissipation of energy, or what not, results in disagreeable feelings, or a physical demand for relaxation which creates the desire for a sedative or a "pick-me-up."

The imitative propensity so instinctive and universal, particularly among the young, accounts for the rapid spread of an evil practice when once its gets a start.

But the most inexcusable cause is the money-making interest which pushes sales regardless of effects.

We can educate the unhygienic and we can match bad example with good; but the conscienceless trader who seeks his own gain from the mental moral and physical losses of his customers can often be dealt with only by the stern force of the law.

There are thus at least three methods of work open to those who wish to help in this part of the great movement for human betterment.

1. Teaching people to live so hygienically that they will never feel the need of artificial substitutes for natural physical buoyancy.

2. Promoting by example, individually and collectively, opposition to existing drug habits and customs wherever found.

3. Warring fearlessly by rigid laws and the enforcement of laws for the protection of the weak and ignorant against exploitation by consciousnessless greed.

(Continued from page 89)

He was told that he "lacked will power." He must use his will power. How can a man possibly use that which he lacks? He was a human machine that in course of its development was deprived of its normal motor power—strong, self-repairing nerve force—and all because the mother did not know, had never been told, not because she was wilfully criminal.

Her babe was started on a career of drunkenness from its birth. It received alcohol through the beer-drinking nurse. It became poisoned by opium through those cursed "soothing syrups." A well-born babe needs only its mother's normal love and care to "soothe" it. Every healthy babe will cry at times. It is its birthright; it is its way of opening the cells of the growing lungs; it is frequently its only way of rebelling against too tight clothes or other uncomfortable conditions.

Any artificial means of quieting the normal instincts is criminal. Criminal, I repeat. Mothers and fathers, prospective parents, let this charge sink deep into your hearts.—Abridged from an article in *Success*.

## WILLIAM T. WARDWELL

Feb. 21, 1827—Jan. 3, 1911

In full, ripe years,  
Not stricken down but reapt,  
Not felled but garnered like the gold-hued grain.  
Be dried, the tears;  
'Twere foolish if we wept,  
Such death's but sealing to immortal gain.  
A mighty man, with giant sweep of mind,  
Yet humble faith that, childlike, grasped his God,  
And simple love for all mankind.  
And native grace, like daises in the sod.  
Art gone; we miss thee in the council place.  
Art gone; we lack thee when the war ranks lock.  
Art gone; we seek in vain that trusted face,  
That shoulder-touch, so firm as living rock.  
'Tis finished. Yes; thy work is full, well done;  
No laggard task left half-wrought with the night;  
But ours is left, the battle all unwon,  
And weakened line to wage the long, long fight.  
Yet through the night  
Thy faith sings light and cheer,  
Of laureled victors on the gold-paved street.  
Afar the light!  
Afar the song we hear!  
Comrade, death-winged, we come with hastening feet.

—National Prohibitionist.

# Class-Room Helps

Conducted by Edith M. Wills

## Coping Successfully with the High Cost of Living

FOR INTERMEDIATE GRADES

**S**URELY, Miss Johnstone, you have a timely topic under consideration this afternoon", said the Observer one sunny day as she came into the eighth grade room in a boy's school during intermission and noted from the blackboard outline that the hygiene class were studying the relative values of foods in connection with their cost.

"Yes", said Miss Johnstone, "every child in this room knows that the cost of living is increasing rapidly and realizes to some extent at least that it presents a serious problem.

"Of course I might have taken up the plain, unvarnished topics as the outline gives them but I think I can get better results by doing it in another way. I have found that if I can so handle my topics as to make a lesson or a series of lessons afford the solution of some practical problem which the boys see has a direct bearing on their own living it seems to furnish a logical point of contact, encourages research, incites real interest and even enthusiasm, and helps to develop reasoning power. It also helps to link up the information available in books and periodicals with school work for I have the boys watch them and clip the articles which may be helpful in class. Where they are important and cannot be clipped someone often makes an abstract. We have a very simple system of filing them in large envelopes, a series for each study, and the boys do most of the work."

"That is a fine idea to pass on", said the Observer. "Tell me, how do you use the material?"

"Usually, as I did this time", she replied. "I indicated the general points to be covered and told the boys to look them up carefully, and I gave some references which I thought the boys might not otherwise see. I insist on accuracy and thoroughness. When they have thus worked out a problem it becomes a part of their knowledge and is retained.

### THE ART OF LIVING WELL

"So, instead of just studying about foods our whole series comes up in this fashion: 'How to cope successfully with the high cost of living.' We have already studied the problem from various angles. First we studied

the constituents of foods and learned in a general way the actual food value of the various staples. Using Voit's ration (protein, 4 oz. carbohydrate 18 oz., and fat 2 oz.) for a basis we compiled various bills of fare which would approximate this balanced ration. This naturally led to a comparison of the cost of the foods available to furnish the ration.

"We found out, for instance, that cheap cuts of beef are just as nourishing as the most expensive ones, and that they are also palatable when properly prepared. The wisdom of buying foods having a low food content was discussed. It was seen that some, such as fruits, are to be furnished if possible because they contain certain salts and acids which are very helpful in conserving the health; on the other hand, others like oysters are palatable but can easily be dispensed with where economy is to be considered.

"The question of pure foods was considered at length and the class came to realize that no matter how nutritious a food may be in its pure state if it is permitted to undergo changes such as come from decay in meats, or if a poisonous substance such as formalin in milk, etc., is present, the substance becomes unfit for food and may cause sickness or death. The canned beef of Spanish-American notoriety was a cogent illustration of the former, the deaths of a number of infants in a New York hospital said to be due to 'doctored' milk, of the latter.

### A TEST OF VALUES

"And now we are about taking up the question of beer and other fermented liquors. I think it is a particularly good time to discuss the nature and effects of these drinks because, having the true values of real foods in mind the children can the more readily see the unwisdom of spending for liquors both from the standpoint of economy and of health; and then there is the mistaken idea that these drinks are good for food or harmless appetizers which needs combating because it is false and because it is undoubtedly the cause of much drinking."

After intermission, the class was called to order and she said to the boys, "I saw an in-

teresting statement regarding the German emperor which has a bearing on our lesson today. Can anyone tell what it was?"

Wilton rose and said, "I think I can. It seems that Emperor William has decided that too much beer-drinking will lower the efficiency of his men in the army and navy and he has been lecturing them about it and advising them to join the Good Templars who are total abstainers. The brewers complained about it claiming that beer is healthful and is necessary to the people, is 'liquid bread'."

"Very good", said the teacher. "Many brewers in America make the same claims. On these and other grounds we are constantly being urged to make these drinks a regular part of our dietaries. Before deciding to do so shall we not test them? Are they nutritious like bread? Are they harmless? Can we afford to use them?"

"From what are beer, ale, porter and the like made?"

"From barley and hops", was the prompt reply.

"But isn't barley one of the most nourishing of foods? Why then shouldn't it be true that these drinks made from nourishing grain are nutritious?"

"Isn't it on account of the way it is treated in making the beer?" said one lad.

"How is it made?" she said.

The boy rose and explained that the barley to be used is sprouted till most of its starch is changed into sugar; it is then heated to kill the sprouts, mashed, and boiled with hops and a large quantity of water.

Another continued the story and explained that when the mixture has been cooled, yeast is added. The yeast is composed of millions of tiny plants which feed upon the sugar in the liquid the result being a chemical change. Most of the sugar is changed to alcohol and carbonic acid gas. The fat is all destroyed, and considerable of the food material is washed away in the process.

"Warren, can you tell us how this change affects the food value of the beer?" asked Miss Johnstone.

"It must destroy a great deal of it," said Warren, "for I found in a statement quoted from the *American Brewer's Review* that 'the greater part of the original extract of the wort [solution of crushed malt and the real food substance] is used up in the fermentation'."

"We see then", she said, "that the fermentation has resulted (1) in the loss of a very large percentage of the original food substance; (2) that what there is, is greatly diluted with water; and (3) that alcohol (to

the extent of from 3.75 to 5 per cent.) is present."

#### A NICKEL'S WORTH OF BREAD FURNISHES

6.4	ounces water
11.2	" fuel food (starches and sugars)
2.	" muscle building food (albuminoids)
2.	" fat (fuel food)
2.	" mineral matter

No poison

#### A NICKEL'S WORTH OF BEER YIELDS

8.9	ounces water
.5	oz. malt extract mostly ash, with incomputable traces of carbohydrates, gums, and albuminoids that have escaped fermentation and filtration.
.015	ounces carbon dioxide

.5 " narcotic poison, alcohol

"On the blackboard you see what the chemist finds in a loaf of bread and you remember that a nickel's worth of oatmeal or of corn meal would furnish twice as much food as the bread. Beside it is the analysis of one nickel's worth of beer. Bear in mind that some beers would have a little less alcohol and the ales etc., a little more. The extractives vary a little, also. Milk, another liquid, contains more than twice as much nutriment. The drawing (p. 94) prepared from a different analysis shows the comparative value and cost of flour and beer."

"I think" said one boy, "that bread in the solid form is cheaper and would go further."

"But", said Clark, "some men who drink beer say that a pint drink of it satisfies their hunger. We can see there isn't enough food to do it, what does?"

"I am glad you asked that question," she said. "Let us see if we can find out. How much does the ordinary stomach contain?"

"About three pints," said Clark.

"Suppose you fill the stomach 1-3 full," she said.

"I see," he said, "to put so much of any thing in the stomach would have some effect. Is that all?"

"Not quite," she said, "Tell me again what was formed by the fermentation?"

"Alcohol", was the reply.

"What is the nature of alcohol?"

"A narcotic", said Clark, "and a narcotic would just deaden his sense of hunger for a while without really stopping it at all."

"Quite right," smiled the teacher. "I think," she said, "that we all now realize that this so-called food is very expensive but an illustration or two will serve to emphasize it. Marion, will you set down some facts for us? From government records we find that the average American workingman earns annually all the way from \$335 in the South Atlantic states to \$670 in the Western states but the average is \$477. Write the latter figure on

the blackboard for us, please. It is said that the average drinker spends \$.50 a day and that, as Marion shows, amounts to \$182 a year or about two-fifths of his whole earnings; surely more than any working man can afford to pay for one such item and for himself alone. But we will take the case of the moderate beer drinker who buys three beers a day which as you see, amounts to about \$55 or more than a tenth of his yearly wages. Here is what one grocer says he will be glad to sell hundreds of times for that sum." (Marion writes on the black-board.)

#### WHAT THREE GLASSES OF BEER A DAY WILL BUY IN A YEAR

1 Barrel of flour	10 Pounds of rice
50 Pounds of sugar	20 Pounds of crackers
20 Pounds of cornstarch	100 Bars of soap
10 Pounds of macaroni	3 12-pound turkeys
10 Quarts of beans	5 Qts. of cranberryberries
4 Twelve-pound hams	10 Bunches of celery
1 Bush. sweet potatoes	10 Pounds of prunes
3 Bush. Irish potatoes	4 Dozen oranges
10 Pounds of coffee	10 Pounds mixed nuts
10 Pounds of raisins	

#### FOUR BIG BARRELS HEAPED UP

and in the bottom of the last barrel a purse with two pockets; in one pocket a five-dollar gold piece marked "a dress for mother", in the other pocket a ten-dollar bill, marked, "to buy shoes for the children".

"Don't these good things look more substantial than the three daily portions of beer? Perhaps we shall find out that the loss of turkey, flour, nuts and fruit, and the dress for mother isn't all the loss after all. However we will put all these considerations aside for the present.

#### COUNTING THE REAL Cost

"Suppose one happens to enjoy the beer and doesn't mind the expense is there any reason why he shouldn't indulge himself in his three drinks a day? Is there anything else to take into consideration except the disproportionate cost and the insignificant food content of the beer?"

"We found," said James, that there was five per cent., or about one-half an ounce, of alcohol in each pint of beer and that would mean drinking one and one-half ounces of alcohol every day?"

"But what of that?" said Miss Johnstone. Clearly this teacher was determined to make her pupils think for themselves.

The boys looked thoughtful and then a number of hands were raised.

"Our book says that the use of less than that amount of alcohol reduces the amount of muscular work a man can do," said Conrad.

"Enough to make any special difference?" asked the teacher.

Several boys replied. One quoted Dr.

Schnyder's experiments with the ergograph showing that the muscles had less strength and endurance and did 8 per cent. less work than when the men experimented on took as much alcohol as there is in two or three glasses of beer.

Another boy said, "I know a young man who is an expert accountant. About twelve men work with him and he says that at noon some drink a pint or two of beer with their lunches. Every time these men are beaten by the men who did not use beer."

"That corresponds with what Kraepelin, Smith and other scientists have found out about impaired mental work, doesn't it?" said Miss Johnstone.

John told of a friend of his who was on the crack rifle team for several years. "He says," said the boy, "that 'the fellows that don't drink put it all over those who do'. Its just like what the Swedish soldiers found out," he added.

"I read somewhere," said Lincoln, "about the Australian benefit societies. Some of them are made up entirely of men who don't drink and others have both drinkers and abstainers. It seems that the members in the societies containing drinkers average to be sick about twice as often. They are sick about twice as long and are about twice as likely to die, as the members in the societies of abstainers. I don't think those men can be hard drinkers either. They wouldn't have money enough to go in a benefit society if they were", he added shrewdly.

"Probably they wouldn't be admitted at all if they had been hard drinkers," said the teacher.

Other boys mentioned other points such as the fact that insurance companies have found out that moderate drinkers average to die years sooner than abstainers in the same class of society; that the railroads and some other kinds of business won't take men that drink; that drinkers are more likely to get into dishonest ways; and that the children of drinkers are not so apt to be bright and strong.

Finally one of the finest and most manly of the boys capped the climax by saying, "I think about the worst thing about it is that using even a little drink gives it the chance to get the upper hand of a fellow so that when he knows the liquor hurts him he can't seem to stop. I mean to be my own master."

"If then," said Miss Johnstone in closing, "we find that alcohol is a narcotic, injurious to the body and likely to create a drug habit, we must avoid it even as the milk containing formalin, which may be more powerful but does far less damage. To use it even in moderation greatly increases the cost of living."

and because it impairs working ability and brings added expense on account of preventable sickness. Class is dismissed."

#### LESSON SUGGESTIONS

**PURPOSE.** To show that alcoholic liquors are expensive, harmful and dangerous and therefore it is unwise to use them.

**LESSON POINTS.** Consideration of the food value of the beer without reference to any injurious effects of the alcohol shows:

1. That (a) the percentage of food content is so small that to get any considerable nourishment very large amounts of beer must be ingested; and, (b) that compared with the relative value of the staple food products the price is exorbitant, but

2. Beer cannot properly be classed as a food because the chemical changes due to fermentation have produced an appreciable amount of the irritant-narcotic poison, which being mixed with what nutrient is present, renders the whole unfit for food.

(It is important to teach the process of fermentation in order that pupils may clearly understand why beer, etc., made from nourishing grains are not only useless but harmful. The action of the yeast plants in producing alcohol is analogous to the action of the bacteria of putrefaction in meat; in each case the organisms have produced toxins or poisons, harmful to human life and health. Note that the very word "intoxicated" means poisoned. Milk, vegetables and other foods which contain harmful or poisonous drugs are by common con-

sent excluded from human consumption, it even being considered necessary to protect the public by drastic pure food laws. Are such laws justifiable? Why?)

**Conclusion.** It is Unwise to Use these Liquors because

1. They are too expensive, on account of (a) disproportionate price; (b) of probable loss from impaired working ability, and greater liability to sickness and death with their resulting expenses.

2. They are dangerous because if used with any considerable frequency they are likely (a) to impair the functions of the vital organs and even the organs themselves; (b) to lower body resistance to disease germs or to toxic substances (lead, etc.); (c) to injure the brain so that (1) the moral and reasoning faculties, higher ideals and self-control are impaired and (2) insanity or crime may be caused; (d) to create an irre sistible and destructive drug habit; and (e), to injure offspring.

In addition to the points suggested by the text, the children might be asked:

How far would the food the grocer would furnish for the three glasses of beer a day go toward feeding one or more members of the family for a year? What per cent. of the average annual earnings would be spent on three drinks a day? What part of the year would this sum shelter a family, rent at \$10 a month? Suggest that shares in building and loan associations could be bought for this sum and thus a home acquired. Use the cuts pp. 84-5, to show effects of alcohol on offspring, the article on lipoids p. 81, for explanation of damage to nervous system, etc.

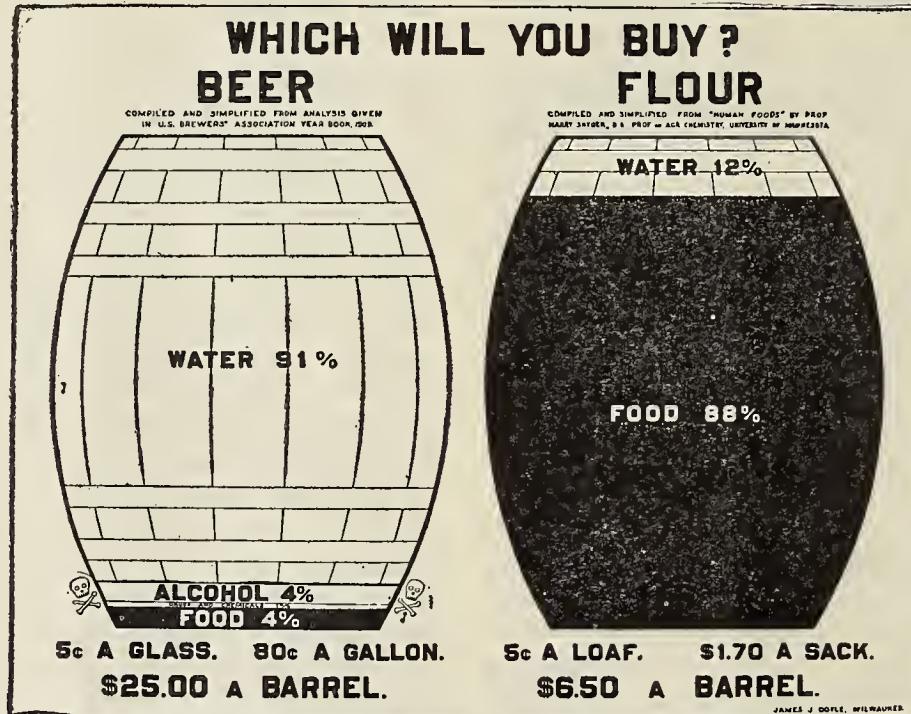


Illustration from Anti-Saloon Year-Book, courtesy of Anti-Saloon League of America

#### Caring for the Baby

In bringing up this topic for consideration, it will add to the interest if the teacher plans to have some pupil bring a healthy baby brother or sister of perhaps a year old—one that will not be afraid of the children. Present the baby to the class. How many other children have a baby at home? Let the children speak of the cunning ways of babies and the fun one can have with them. What are they to be by and by? If they are to be men and women who can be happy themselves, give joy to others and be useful or even famous in the world, what must they have?

See that the class get the idea that not only will the babies need properly developed mem-

bers, abundant health and vitality in general, but will need good sight and other senses, and a keen mind. (If any child is likely to lack these essentials, speak of some cases of men or women who have loved, been beloved, and served in spite of handicaps.) Emphasize the importance of such an equipment for life and how much harder living must be if handicapped. Evidently it is so valuable that those who understand must take care of themselves and give particular care to these dear little helpless ones. How can we tell that this baby is healthy? A healthy baby has bright eyes, clear skin, pink cheeks, and does not cry much. What is true of the baby's flesh and of its bones? Note that the bones

are very soft and the flesh tender. The baby is like a flower or a tiny young tree—very sensitive to good or bad treatment. Question the children and get their ideas as to what care the baby ought to receive in order to continue to grow healthily and happily to maturity. These will fall under several general heads which may be written upon the blackboard, the subordinate points being developed logically, placed under each, and copied by the children.

#### SLEEP AND FRESH AIR FOR THE BABY

Discuss briefly with the children the need of fresh air for everyone. When or how much ought one to have? If older persons who are not growing need so much, surely the baby does too. Lead the children to see that the baby as well as older persons will be stronger and better if he has air at night or if he has his naps out of doors, but warn that since he is more sensitive to cold he must be well wrapped up, screened from the wind, and looked after. When taken out for his daily airing, all these cautions must be carefully observed, and in addition, his eyes must be shaded so that the bright light may not weaken them. Suggest the helplessness of the baby and so the need of great thoughtfulness on the part of the little caretaker.

#### FEEDING THE BABY

WHAT is fit food for the baby? Review briefly the need of food, of digestion, and the principle organs of digestion, laying special emphasis on the importance of good teeth. Lead the children to speak of the temporary pain and the illness that may come from eating the wrong food, or too much, or too often, or from under-mastication. Point out that many sickly people became such because their digestion was not taken care of in childhood.

*Milk.* What difference between the digestive organs of the baby and an older person? See that the children realize that these organs, like all the rest, are "baby organs" if one might so call them, that is, they are not very large or very strong, can not possibly do hard work or very much of it. What ones are entirely lacking? What does this clearly indicate regarding the use of solid food?

Something else points that way, too. What food is provided for calves and other young animals and for babies? Recall briefly that milk contains all the kinds of materials needed for the body. Show that regular hours for feeding are still more important for the baby than for the older child. Instruct as to the baby's need of water, the care of milk, of bottles, etc. In warning against solid foods and sweets for the baby under one year old, recall

the fact that in older persons the strong digestive organs helped by the teeth require 3 to 5 hours to digest food and sometimes fail at that. To try to make a baby's weak organs do such work is to invite disaster, and it is not uncommon for babies to fall dangerously sick and even to die from cholera infantum and the like after swallowing such foods.

*Solid food, what and when.* At what age does the baby have most of his teeth? Then we may suppose that at a year he may begin to take solid food. However, we must remember that he does not yet know how to chew his food well or understand the need of doing so. Moreover, the digestive organs are still weak. Considering these things what foods can be suggested as easy enough of digestion to be fit for the baby during his second year? During his third year? Encourage the children to name the foods they consider suitable. Explain why certain ones they mention are not proper and may be harmful and take this opportunity to point out the harmfulness of candy and of any other undesirable foods which experience shows are being used in the homes. Warn against giving children beans, nuts, dried fruits and pop-corn and the like until they can be taught to masticate them thoroughly.

Discuss the question of drinks showing that milk and water are the proper drinks. Note that milk is also a food and ought not ordinarily to be given between meals; and that the water should always be boiled and cooled if there is any reason to think it is not pure. Babies are more sensitive to disease germs than older persons. Tea and coffee even the mildest, should not be given at all. If any child suggests beer or any other alcoholic drinks the question may be dealt with at once or put off until the discussion of the next topic.

The following or a similar list of foods suited to the baby should be written on the blackboard and copied by the children. Review occasionally till all have the main facts well in mind.

#### WHAT AND WHEN

*For children from one to two years old:* Fresh milk, well-cooked cereal, dry toast, or unsweetened swieback, broth, and coddled eggs; a little orange juice, prune pulp, baked apple or apple sauce, may also be given.

*For children during the third year:* Small portions of finely cut chicken, lamb or beef; boiled rice, baked potato, spinach, asparagus tips; celery, carrots, squash and string beans (all thoroughly cooked). For desert, junket, custard, plain rice or tapioca pudding, no tea, coffee or fermented drinks.

## KEEPING THE BABY WELL

*Why not give medicine.* There is no doubt that much more medicine is given to children than ought to be; babies, in particular, often being dosed when they are merely fretful.

Review the points already made, i. e., the baby must have sleep, plenty of pure air and good food, and be guarded against accidents, etc. Note that if the baby is so cared for he will seldom cry. Point out that if he does get fretful and cross pains should be taken to find out in what way he is suffering rather than to dose him. Perhaps his clothing irritates or is tight. (Chafing may come from cotton undergarments boiled with lye or soap.) Perhaps a pin pricks him. (Only safety pins should be used.) He may be thirsty and a few spoonfuls of cool water will set him right; constipation and over-feeding are fruitful causes of infantile misery and the remedy for each is certainly to be sought in regulation of diet, not in drugs.

The definite teaching showing that hygienic treatment is the proper one leads directly to the next point that to give babies drugs like soothing syrups to stop their crying or indeed to give, except by a physician's orders, any medicine which is likely to contain narcotics (as cough medicines and those for summer complaints which usually contain some form of opium) is dangerous.

*Danger of overdose.* Show that owing to the extreme sensitiveness of the baby it is hard to tell just how much to give and so there is danger of an overdose which may cause death.

*Danger of habit forming.* Tell a story such as that found on p. 89 of a case where soothing syrups given to a little child so impaired health and nervous control that the person was handicapped all his life, being unable to make a permanent success of business because he had such a mania for drink that when seized by the craving he was unable to control himself and was plunged into disgrace. Note that this man (like many others) grieved over his condition and was willing to do anything to be free from the drink but his disease seemed incurable. The records of physicians and of hospitals would show many such cases.

It appears that where the effects are less dreadful, still the child may be very nervous or become a cigaret "fiend."

What other narcotic, somewhat less powerful is often used? Might we expect that the effects of alcoholic drinks on young children would be similarly dangerous? The following true story will show that alcohol like opium is dangerous.

Some years ago a puny baby was born. He

was the only child and the parents not understanding the harmfulness of alcoholic liquors, thought that a little liquor with nearly every feeding would strengthen the baby boy and enable them to save him. He did live to grow up but he had little power of self-control and became a drunkard. When it was too late, his mother saw and regretted the fearful mistake she had made.

*Danger of impairing health and growth.* Point out that alcohol is an irritant as well as a narcotic and can harm the baby in other ways than through the brain and nerves. It may affect the blood and some of the organs of the body and the baby may not grow so large or strong. Older children, too, are almost as likely to be harmed.

Show the picture of the frog's eggs and the tadpoles, and tell the story of how an English scientist (Eccles) took a certain number of these eggs and put half of them in a bowl of clear water and the other half into a bowl of water containing a tiny bit of alcohol (10 drops of alcohol to an ounce of water). The bowls were kept side by side. The scientist found that many of the eggs in the alcohol and water failed to develop, and among those that did develop, many were "undersized and feeble." The pictures show how alcohol hinders the growth of a tadpole. Dr. Eccles also found out that a little alcohol given chickens hindered their growth. Dr. Hodge proved that kittens do not grow as well if they are fed even a little alcohol. If alcohol hinders the growth of young animals, we must believe that it can not be good for growing children. Point out that the alcohol is just the same and just as injurious in beer, wine and cider as in whisky or brandy, the only difference being that the former are less strong.

Guard against the children's thinking that a single use or two of any of the opiates or the alcoholic drinks will make drunkards or stunt growth, but leave the impression that always there is danger in using them much and since no one can tell how dreadful the results might be, it is safest for children and also for grown people to leave them alone.

**REFERENCES:** Chapter XXIX of "Building and Care of the Body", Millard; "Emergencies", Gullick Hygiene Series; and some of the popular magazines.

**LESSON SUGGESTIONS:** Use the material in sections teaching a few points at a time and making sure the children understand *why* certain things should or should not be done. If time is limited, or conditions make it advisable, the whole school may be taught the main points on a Friday afternoon and the mothers may be invited to come.

Ask the children to embody the main points in a story of how some child took good care of a baby brother or sister.

Let them draw or cut circles or squares representing table tops and write on them a list of foods suitable for the second and for the third years. Or, they may draw the outlines of the proper foods, e. g., a tumbler of milk, or instead, cut them out.

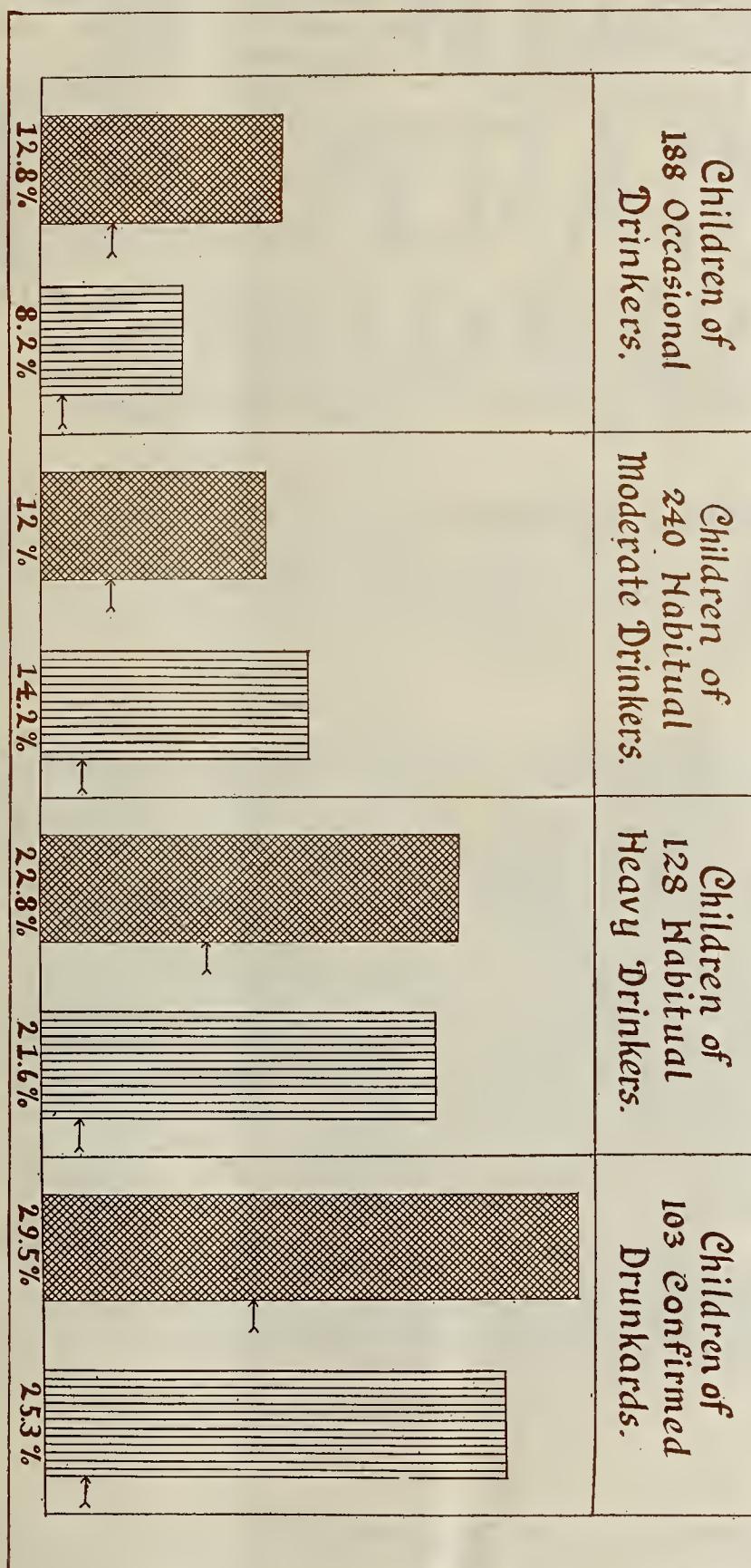
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... in the ...

## Children of Drinkers

Arrows indicate extent of same diseases in fathers. *Diagonal lines* represent Tuberculosis. *Perpendicular lines* represent Nervous Diseases.

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# Scientific Temperance Journal

Vol. XX

BOSTON, MARCH, 1911

No. 7

## The Divine Heritage

By Louise Guiney

Why bowest thou, O soul of mine  
Crushed by ancestral sin?  
Thou hast a noble heritage  
That bids thee victory win.

The tainted past may bring forth flowers,  
As blossomed Aaron's rod,  
No legacy of sin annuls  
Heredity from God.

—Selected.



## The Seat and Sequel of Some Alcoholic Delusions

By W. PFAFF, M. D.

THE brain centers through which human reasoning is carried on are the ganglion cells of the gray matter which control motion as well as thought. It is these organs which prevent us from using our bodies for purposeless and unreasonable movements, for putting any sort of fleeting thought into immediate execution, from striking upon the least provocation, from retorting immediately to angry words, from expressing a thought before we have tested its accuracy, in brief, from doing anything before we have considered it.

### TAKING OFF THE BRAKES

It is these centers which enable us to weigh our words "in the balance" and thus give rise to the saying, "First weigh, then risk." These are the organs of logical thought, of reason, and of judgment. Alcohol paralyzes them. As a result, soon after it is introduced into the body, lively signs of external activity begin and steadily increase as long as the muscular apparatus remains unaffected. Then follow talkativeness even in those at other times reticent, and lively movements of the hands and feet, particularly in persons who have not a large amount of self-control.

Alcohol makes one easily accessible, ready to put up with any kind of society, brings animation into a previously "stiff" company, loosens the tongue, removes diffidence, embarrassment and scruples concerning doubtful conversation and puts one into a state of high spirits in which care and fatigue are forgotten. Discretion, which would restrain the tongue from offensive words, the hand from rash acts, ceases, and there arises a self-satisfaction, even self-aggrandisement, in short, a loss of the critical faculty, showing clearly that reason, which differentiates man from the animal, has ceased to act.

### INTERFERENCE WITH DANGER SIGNALS

It is because of the narcotic nature of alcohol, which paralyzes first the highest and noblest functions of the brain, then gradually the nerves and muscles and finally consciousness, that the drinker thinks himself better than before, while he is gradually losing the ability to locate himself and to take note of the serious disturbance going on in the machinery and substance of his body. This characteristic feeling of well-being is called *euphoria*.

### THE ALCOHOL PLEASURE BUBBLE PRICKED

Let us suppose now that such a condition affords the pleasure—if in its rudimentary beginning it is really a pleasure—that certain professors expect from alcohol, and that it is needed to overcome many of the discomforts of life. Since this is pleasure that is possible only by injuring the organs of reason should it not be avoided? This sense of well-being can hardly be called a pleasure for the forgetfulness which it causes is followed by an awakening in which all unpleasantness appears worse than ever, while the enjoyment from its use destroys real enjoyment, and many things that would otherwise be a pleasure become distasteful.

What good, then, does the alcohol-narcosis do if it brings upon men evil and misery, sorrow and trouble? Are the misery and sorrow lessened by the forgetfulness that alcohol caused? Are the evil and trouble smaller? No, but the power of resistance against the strokes of destiny, the clearness of understanding and the steadfastness of character needed to face the difficulties of the situation suffer loss, and from drink to drink the danger increases that under the influence of both misery and alcohol the man's ability and character will be impaired and that he will become a true victim of alcohol.

## TOLERANCE NOT A SIGN OF STRENGTH

When one considers that with the present practice of taking alcoholic drinks daily, often many times a day, the alcohol each time acts upon the cells altered by the previous drink and not yet recovered, it is not difficult to see that every new attack leaves them in a worse condition than before. Gradually, even with moderate regular use, a chronic change may take place causing a serious impairment of functions.

Again experience teaches that those accustomed to the use of alcoholic drinks who can "carry" most, need more to produce the euphoristic ("happy") condition. The reason for this apparently is that it takes more alcohol to depress (paralyze) the altered brain cells. This explains the increasing per capita consumption of alcohol and the manner in which the drinker is led to drunkenness. But the degree of tolerance of alcohol is the measure of defectiveness and obtuseness of the body instead of the mark of a high degree of efficiency. This cannot be doubted by anyone who knows:

1. That tolerance cannot be kept up indefinitely. There is often a terrible end, delirium tremens or death. Even the greatest sot dies from unusual indulgence in drink, from acute alcohol poisoning.

2. That the wine or beer tippler who is

never drunk, shows the same kind of changes in heart, blood vessels, brain and nerves, as the steadily drinking drunkard.

3. That the formation of anti-toxins is diminished by the use of alcohol, an evidence of the fact that the organism loses its power of resistance.

4. That the life period of the alcohol-user is shorter than that of the abstainer.

Tolerance of alcohol results from its making itself indispensable. It leads a man on to his own injury and final ruin. If, therefore, a man accustomed to alcohol is sensible of no influence following a moderate drink, (and nothing is observed by others), and he thinks he is able to drink still more before he has had enough, he has no right to say that alcohol does him no harm, for it exerts its destructive action subtly and slowly, but none the less surely, and it will finally be manifest, even if not for many years, perhaps upon his children. The fact that a sound, strong constitution, by becoming accustomed to alcohol, can "carry" a great deal, while a "weakling" soon has "enough," is only proof that it is a serious mischief to the man of sound strong body, for it is certainly a diseased condition which renders him insensible of the fact that he has had enough alcohol and increases his desire for more.—

*Translated for the SCIENTIFIC TEMPERANCE JOURNAL.*



## Old Fashioned Ideas

BY E. L. TRANSEAU

**I**T was lately related of a student in one of our eastern colleges that he wrote home to his parents, "You will have to give up your old-fashioned ideas about drinking and smoking." The young student had come under the influence of a college president who not only uses wine and tobacco himself but offers them to the young men under his charge.

It is not surprising, therefore, that in such an atmosphere a boy, not yet well informed in history, should be led to think the moral standards of his parents old-fashioned and the "liberal" standards he had encountered in college new. But the facts are just the reverse.

Total abstinence is a newer fashion by many centuries than wine-drinking which antedates history. The preaching of moderation even is as old as written records. But abstinence is the very newest fashion, so new that it had not yet spread from this new country to continental Europe when some of our present

college presidents and professors were there as students. And it is the old drinking customs of those universities that some of these professors seem to encourage implanting here. Now there are over 40,000 abstainers in Germany, and many more thousands in Sweden, Norway, Switzerland, all following the new fashion which this boy's parents and grandparents helped establish here in America.

Abstinence old-fashioned! All the world is rubbing its eyes over the German Emperor's recent recommendation of total abstinence to the naval cadets. And there is nothing old-fashioned or "mollycoddle" about the reasons he gave for it—the times demand men of iron endurance and clear brains; victory in the next war will be with the side that uses the least alcohol; by training the soldiers to renounce alcohol, the whole nation will be uplifted morally. (See page 105.)

Here we have not only a new fashion but its advocacy by an emperor and among its exalted followers are the Empress of Ger-

many, the Queen of Holland, the Crown Prince and Princess of Sweden, and the President of the United States.

When this college boy begins to study the latest phases of political economy, he will learn, if his professors are up-to-date, how England and Germany waked up a few years ago, to find that American industry was seriously rivalling their own, and sent delegations to America to ascertain the reason. These reported back that the greater sobriety of American workmen was a large factor in the success of the American manufacturer. Since then, German manufacturers have begun to follow our New World fashion of barring alcoholic drinks from the workshop.

We are just beginning to hear of a new force in social evolution, the social conscience. It appears to be an extension of the "New England conscience" from the individual to society. Its aim has broadened from personal to human betterment. This social conscience is beginning to see in beer, wine, and other liquors, a great hindrance to human bet-

terment, and like the Kaiser, is beginning to advocate abstinence from these as a means of uplifting the people morally.

The spread of abstinence in Europe is largely the outcome of scientific discoveries which were impossible before the era of precise methods of scientific investigation, and that period is usually dated from about 1891.

And tobacco? Where is the newness in the use of that? It was a fashion of unknown antiquity among the American red men over four hundred years ago when the white race began copying it, while the anti-tobacco leagues and literature are scarcely a quarter of a century old.

No, young men and women, in college and out of college, it is wine-drinking and dissipation in all its forms that are hoary with age. But abstinence from alcohol and other stupefying drugs is the new ideal which will become more and more "fashionable," as men increase in knowledge of their nature, and in appreciation of the standards of physical and mental efficiency and moral responsibility.

If we are hoping to reform mankind, we must begin, not with adults whose habits and ideals are set, but with children who are still plastic. We must begin with children in the home, the school, the street, the playground.—*Charles W. Eliot.*

## The Relation of Temperance to Life Insurance

R. Henderson, Assistant Actuary, Equitable Life Assurance Society

**S**O far\* we have been considering total abstinence at one end of the scale, let us look at the other side of the picture and examine the effects of the immoderate use of and association with alcoholic beverages. Some few years ago the Actuarial Society made a special investigation of certain doubtful or suspected classes of risk, which had been taken by the companies at regular rates.

One class so investigated, was composed of reformed drinkers, that is, people who at some time prior to being insured were in the habit of drinking immoderately, but who, when insured, were believed to have reformed. This class showed 299 actual deaths compared with 238 expected according to the standard used as a basis, or an excess of 26 per cent., no doubt partly due to after-effects of previous habits and partly to the reform in many cases being only temporary.

Certain occupations connected with the liquor trade were also investigated, among others wine or liquor sellers who were divided into two groups according to whether they

were or were not personally total abstainers. The total abstainers in this occupation showed 411 deaths compared with 344 expected, or an excess of 19 per cent. while the non-abstainers gave 1704 actual deaths to 1300 expected, or an excess of 31 per cent., a difference between abstainers and non-abstainers of 12 per cent. of the expected. It will be noticed that continued association [with the liquor traffic] appears to have an injurious effect although part of the excess mortality among those who returned as abstainers may have been due to habits subsequently formed or cancelled when applying for insurance.

Other occupations gave similar results so far as total mortality is concerned, no analysis being made with respect to personal habits; thus hotel keepers, not attending bar gave 22 per cent. extra mortality, brewery employees 35 per cent. and distillery employees 7 per cent. The comparatively favorable result in the last case was probably due to the fact that the product of a distillery is not ready for use when it leaves the distillery, while the brewery employees ordinarily have free access to its product.

In 1900, the company with which I am

\*The first part of the address considers the evidence showing that the life expectation of moderate drinkers averages to be less than that of abstainers.

connected, commenced to insure impaired lives at an extra premium, and among those impaired lives were some in which the impairment was connected with the use or handling of alcoholic beverages. Our experience with these classes is not yet of very great weight, but so far as it goes it confirms the general results on this point. In particular, those reported as becoming intoxicated occasionally but less frequently than once a month showed 26 deaths where 16 were expected, an excess of 60 per cent.; and those reported as

becoming intoxicated monthly or oftener gave 18 deaths where 6.4 were expected or nearly three times the standard rates. It is perhaps needless to say that we ceased some years ago, when we first noted the tendency in this direction, insuring the latter class on any terms. As a result of these experiences I think it may be taken as indicated with a fair degree of weight that total abstainers show a favorable mortality as compared with the general average of non-abstainers.—*From an address before the Inter-Church Federation.*

\* \* \* \* \*

“Fate served me meanly, but I looked at her and laughed,  
That none might know how bitter was the cup I quaffed.  
Along came Joy and paused beside me where I sat,  
Saying, ‘I came to see what you were laughing at.’”

\* \* \* \* \*

### A Flemish View of a World-Wide Problem\*

BY HON. FRANS VAN CAUWELAERT

**A**LCOHOLISM is diminishing the strength of our people, filling our prisons and insane asylums, bringing our children into the world afflicted with hereditary weaknesses which later, through inexcusable neglect renders them an easy prey to revelry and moral decline.

It is impossible to present in one statement all the dangers involved; yet we may affirm with unspeakable sadness, that no joint remains untouched.

Even our industries are affected by this condition; it can be incontestably shown by figures that alcoholism is a bottomless pit into which the wealth of our people disappears.

It is to our shame that, although not the worst, we are one of the worst of the drinking nations. We pay out more millions for drink than for all our taxes, and these millions do not include the loss to the nation in moral character, as our prisons and insane asylums testify. Our people have strength but let us not further undermine it, let us not continue the risk of moral deterioration by alcohol.

Alcohol is the worst enemy of the working class and of all working men's societies. The drunkard is a dead weight upon them because he can not perform the obligations which his membership imposes. He is a continual burden and by his inability to save he diminishes the savings of others.

A grand procession passed through the streets of our chief city this morning exciting admiration. But if instead there had been a procession of the sorrowing widows and children whose fathers have fallen victims to alcoholism, gladness would have fled out of the city; the spectacle would have been too

terrible for our eyes to have witnessed.

Alcoholism is the pestilence of our day. Every one who has thought about it agrees that legislation has done too little to prevent it, yet the leaders of the various parties are deaf to the warning. The single measure which has been taken has produced no effect because public opinion is not yet sufficiently aroused to the danger.

The evil is one that is not only the delight of the drinking crowd but is favored by too many magistrates and public officials. It is a startling fact that 200,000 inn-keepers have an interest in the consumption of drink.

Against this confederacy on the side of alcoholism we must oppose a confederacy of all those who perceive the danger. We must learn to check the evil among the working men by better wage conditions, by the encouragement of frugality, by hygienic housing.

The greatest obstacle is the ignorance of the people. Every member of our temperance societies should therefore be active in distributing information. We must bend every energy to directing our people to higher enjoyments.

Parents we must depend largely upon your ability to instruct your children, and we must also have the help of teachers, clergymen and those in the higher professions. All classes of society have a duty to perform in this matter.

We must win every year thousands of converts. If we do this, at the first jubilee of our present reigning sovereign we shall be a people that are not only in a flourishing state commercially and industrially, but a people whose moral strength and worth of character will give the best assurance of our country's future welfare. —*Journal Ligue Patriotique contre L'Alcoolisme.*

\*From a speech at the Anti-Alcohol Demonstration (Brussels, June 1910) in the presence of the king, Cardinal Mercier and many other distinguished guests.

## Behold the Earth

By Ella Wheeler Wilcox.

Behold the earth, swung in among the stars,  
Fit home for gods, if men were only kind.  
Do thou thy part to shape it to those ends,  
By shaping thine own life to perfectness.  
Seek nothing for thyself, or thine own kin,  
That robs another one of hope or joy.  
Let man toil in poverty and pain  
To give thee unearned luxury and ease.  
Feed not the hungry servitor with stones,  
That idle guests may fatten on thy bread.

Look for the good in stranger and in foe,  
Nor save thy praises for the cherished few.  
And let the weakest sinner find in thee  
An impetus to reach receding heights.  
Behold the Earth, swung in among the stars,  
Fit home for gods: wake thou the god within,  
And, by the broad example of thy love,  
Communicate omnipotence to Men.  
All men are unawakened gods. Be thine  
The voice to rouse them from unhappy sleep.

—From Ainslee's Magazine.

## An Unsatisfactory Stimulant

THE time was when alcohol was regarded as a necessity in medicine, valuable not only in emergency, but as a part of routine treatment of many diseases. Faith inculcated in it by medical use, is still bearing fruit in the family whiskey or brandy bottle kept in the medicine closet "for use as a stimulant in emergency" or to serve "as a tonic."

But meanwhile, the practical physician, like the Scotchman, began to "hae his doots" about the usefulness of alcohol as a remedy. As a result, he has been quietly sending it the way of many other discarded medical practices. Today all physicians are agreed that alcohol should never be used on lay prescription; all physicians prescribe far less of it than even ten years ago; and a constantly increasing number do not use it all.

Probably the most persistent popular idea of alcohol as a medicine is that it is necessary in acute diseases like pneumonia, typhoid, etc., as a stimulant. Dr. J. L. Miller of Chicago, in an address at the American Medical Association, 1910\* reviewed modern experiments and careful observations as to the effects of alcohol on the heart and circulation, especially in acute infectious diseases. With animals, in a few instances the alcohol had a favorable effect, but in the majority of trials by acting as a depressant, it simply increased the weakness of the nerves controlling the blood vessels, which the experimenter had proved to be the chief cause of disturbance of the circulation in these diseases. With a quantity of alcohol equal to that in four-fifths of a tablespoonful of whiskey taken by a man, there was a slight improvement in blood circulation in about five minutes, followed by a depression that lasted forty-five minutes. With larger doses, the equivalent of two and one-half tablespoonfuls of whiskey, the effect from the first was depression.

## AN UNDEPENDABLE REMEDY

In all the experiments it was difficult to find for any single individual what was the smallest or the largest amount required for a

stimulating action. "In this respect," said Dr. Miller, "it differs from other heart tonics, as with digitalis, for instance, we may be certain that a given amount will affect the heart in a characteristic manner. Alcohol must always be an unsatisfactory medicinal agent, for a remedy which in moderate doses may or may not have the desired effect, and which in larger doses develops an unfavorable action is not to be relied on in an emergency."

## DEPRESSION INCREASED WITH AMOUNT GIVEN

A report is given of a study made of 62 patients, most of whom had acute infectious diseases, including pneumonia and erysipelas. None of them were addicted to the beverage use of alcohol. They were divided into four groups. Each group received a different amount of alcohol, the object being to find out whether alcohol increased the power of the heart and raised the blood pressure.

The results given below show a large proportion of depression instead of stimulation.

The amounts of alcohol used are given in the whiskey equivalent of tablespoonfuls.

Alcohol given	Patients showing depression	
.8—1.3 tabspnfls. whiskey		70 per cent.
" 1.3—2.6 "	" "	77 per cent.
" 2.6—4. "	" "	80 per cent.
" 4. —5.3 "	" "	100 per cent.

In other words, three-fourths of the patients receiving less alcohol than would be contained in four tablespoonfuls of whiskey, showed depression instead of stimulation. In every patient receiving as much as the four tablespoonfuls of whiskey there was depression.

These results show how uncertain the effect of alcohol is, as even in small doses, it may, and in large doses invariably does depress instead of stimulating the circulation. "The border line," said Dr. Miller, "between the amount acting as a stimulant and the amount having a depressant action is variable, and this variability in action makes alcohol an undesirable therapeutic [medicinal] agent."

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Founded by Mary H. Hunt

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### THE TORCH BEARER

By Arlo Bates

The Truth! Not now we fight with sword and lance,  
Nor yet with eager bullet swift for prey;  
Strife is not fiercest now where foes advance  
In ranks embattled, in mad zeal to slay.  
Thus have men fought of old, and thus while life  
Is made a pawn in the great game of fate  
Men may fight on; but keener is the strife  
Where bloodless triumphs upon victory wait.  
—Selected.

## The High Price Workman

FOR many years, the development of industrial enterprises has been perfecting the efficiency of the machine. Employers are now beginning to recognize the importance of developing the efficiency of the *man*, according to definite rules. Methods are worked out by which a given piece of work can be done with the greatest economy of time and strength. Each workman is selected and trained for his special work. Mr. Frederick W. Taylor, in a series of articles on Scientific Management now running in the *American*, relates in detail experiences in developing this efficiency of the individual laborer and the results upon the men themselves as prosperous, self-respecting employees, even in occupations like shovelling, which is ordinarily classed as unskilled labor. A hint as to the type of men who can be developed into workers of the highest efficiency is given by Mr. Taylor in his description of the shovellers at the works of the Bethlehem Steel Company who became proficient workmen. "A careful inquiry into the condition of the men developed the fact that out of the 140 workmen, only two were said to be drinking men. This does not, of course, imply that many of them did not take an occasional drink. The fact is that a steady drinker would find it almost impossible to keep up with the pace that was set, so that they were practically all sober."

Thus the drinker eliminated himself from the ranks of the progressive, successful workmen, those who proved themselves the "high-priced men."

## Seeking Help From Egypt

TWO illustrated articles on the consumption of intoxicants have lately appeared in the *Independent*.

One of these articles concludes with the statement that although there has been a great increase in the total consumption of intoxicants from 1840 to 1909, there is one cause for encouragement in the fact that there has been a change from the drinks containing a high percentage of alcohol to those containing a low percentage.

Too much encouragement from this should not be drawn from the conclusion. The fact is that the change from distilled to fermented drinks has brought an actual increase in the per capita consumption of alcohol, the common injurious element of all these drinks.

At a moderate estimate, spirits contain on the average, about 45 per cent. alcohol, wine 10 per cent., malt liquors 4 per cent. On this basis, the absolute alcohol consumed per capita has increased from 1.21 gallons in 1840 to 1.47 gallons in 1909.

Further, the decrease in alcohol consumed in spirits is infinitesimal compared with the increase of the alcohol used in fermented drinks. The per capita amount of alcohol supplied by spirits has decreased only 46 per cent.; that consumed in fermented drinks has increased 900 per cent. Thus a great increase in the use of wine and malt liquors instead of proportionately decreasing the use of spirits, superimposes on spirit drinking a growing consumption of alcohol in the form of the lighter drinks which are considered "more respectable."

The figures afford no justification for believing that we may see substantial relief from the evils of alcoholism in substituting the so-called lighter drinks. While it is true that these contain smaller amounts of alcohol, they tend to be used in larger quantities, and we get the relatively little difference or, as the figures show, a positive gain in the per capita consumption of alcohol.

Physicians in France and Germany out of the experience of those nations are warning us against thinking that beer and wine will afford any real relief from the most serious evils of alcoholism, especially in view of the now demonstrated injuries from small quantities of alcohol.

The acute results of drink in drunkenness are conspicuous, revolting. The injury done by alcohol, even in the "lighter" drinks to efficiency, health, and racial soundness is often slow and inconspicuous in development, but in the very subtlety of its working, it may be the greater peril and eventually

bring the greater national loss.

As Dr. Hugo Hoppe, of Königsberg, pointed out in his pamphlet on beer, there is likely to be slow but serious undermining of the individual's powers by the moderate use of the lighter drinks, while the results of immoderate use do not materially differ from the results of spirit using.

## No Information, No Inspiration

**T**IMES are changing. Ten years ago relatively few persons cared for or saw the importance of the scientific facts about alcoholic drinks. Some hearers shrugged their shoulders indifferently. Some looked politely incredulous. Some were responsive.

Many signs point now to the coming of a great new popular educational temperance campaign on a scientific basis that will help do for alcoholism what the anti-tuberculosis campaign is doing to wipe out tuberculosis.

Education, information, inspiration, legislation—this is the logical order of events.

The true nature of alcohol, its practical influence on efficiency, on public health, on racial soundness, are fundamental facts by which the more obvious questions of the selling and manufacturing of alcoholic drinks will ultimately be settled.

Every local campaign against the saloon ought to be preceded, therefore, by months of quiet, systematic education of the voter in the facts, not alone as to the evils of the saloon as an institution—the trouble lies deeper than that—but as to what the alcohol that the saloon or the beer-wagon sells is and does.

### A PLAN OF WORK

As a suggestion of method by which this work can be done with efficiency and economy of effort, the following plan is outlined, which may be modified or adapted to local conditions:

Organize a local committee for the express purpose of getting to every voter the facts that show the physical, mental and economic dangers in even the moderate use of alcoholic drinks.

Divide the list of voters in the community into three classes: (1) known temperance and no-license voters, (2) doubtful, (3) license voters. This enables the committee to put its heaviest work where most needed.

Divide the doubtful and license voters into groups of five or ten, or such number as can be conveniently handled.

Assign each group to a worker who shall be responsible for placing well-chosen literature containing the facts about alcohol in the hands of these voters.

Begin this work at least six months before a vote is to be taken on the question of license or no-license.

Give out but little literature at a time to each person, but give it often enough to make an impression. As no one organization has all the best literature, suitable for distribution, to simplify the securing of it the Scientific Temperance Federation has prepared packages compiled from the literature published by various houses. The packages cost \$1 each and contain 400 leaflets—package No. 1, fifty each of eight different kinds, or package No. 2, 100 each of four different kinds.

Special attention is called to the series of charts now being published in the inside cover of the JOURNAL. Reprints are ready for distribution. There is nothing better from an educational standpoint. Each carries a lesson to the eye.

Get the Women's Clubs to include in their programs some phase of the relation of alcohol to public health and especially to childhood.

Get Men's Leagues to discuss the relation of alcohol to working ability, accidents, longevity, etc.

### WORKING THE PLAN OF WORK

Nothing ever happens of itself. Anything that has changed the current of human affairs has "happened" because somebody had a genuine compelling vision of what such a change would mean and proceeded to do something about it. Education of the people in the facts about alcohol will never just happen. It will come because you and I individually believe in it, get others to believe in it, unite for it and push it.

The facts are here; the people are willing to hear and read them; the need is great.

Are we interested enough to do something about it?

## Arrested for Sickness

**N**INETY thousand five hundred persons were arrested for sickness in Massachusetts in 1909.

To be sure, that is not just the way it appeared on the police-blotter. Drunkenness was the diagnosis recorded. But the fact was that 60 out of every 100 persons arrested were haled to court because their brains and nerves had been put out of order by drink—a physical fact. They were as truly disabled as though they had broken a limb or acquired an acute disease.

What they had broken—the perfect working of brain and nerves—is vastly more important than a bone, and intoxication—poisoning by alcohol—is the manifestation of a diseased condition, alcoholism.

A city becomes wildly alarmed at 100 cases of typhoid. Twenty-five limbs broken on icy sidewalks would send a chorus of protests to the street department for not removing the ice, but the sorrowful army of "drunks" files in and out of our station houses and jails without heed, pity or protest. It will continue to do so until the people awake to the fact that the cause is not wholly the weakness of the drinker, but the nature of the drinks offered for sale on our streets; that this drink causes physical disablement, temporary or permanent, just as truly as an icy sidewalk or milk-borne disease germs.

But this is not all. At least half of all the arrests outside of these for drunkenness are due wholly or partly to alcohol. Brain cells impaired lead to lessened self-control, irritability increased, a hasty word, an ill-considered blow, arrest, conviction for crime. Again, back of it all, lies the physical fact of the injury alcohol does to the brain cells.

The amount of the whole matter is that practically eighty cents of every dollar spent by the tax-payer for police, municipal and district court expenses pays for picking up men and women whose brains and nerves have been made sick by the drink which the city permits to be sold. Then we "try" these sick people, put them under probation or "punish them" for it by fine or imprisonment. And the tax-payer pays the bill to the extent of about \$300,000,000 a year in the United States.

There are moral questions that enter into the formation and prevention of the drink habit. What we most need just now, however, is widespread education of the people to the fact that the drink habit is not primarily depravity but disease. Results of the drink habit need to be translated into terms of phy-

sical disablement with which the general public is now fairly familiar.

People should understand how the social questions of poverty, crime, degeneracy, insanity, in so far as they are traceable to alcohol at all, go straight back to its physical effects.

We need this kind of public enlightenment to get clear, logical thinking on the alcohol question.

We hear no complaints about infringement of "personal liberty" when a scarlet fever sign is placed on a house. People know that they are dealing with a disease against which society has a right to be protected.

A corporation for manufacturing fireworks lately applied for permission to dissolve the corporation because, it was said, the movement for the "sane and safe Fourth of July" had so seriously injured its business that it was not worth while continuing it. There were no pathetic appeals to save this business for the laborers thus thrown out of employment or for the employers thus injured in business, like the protests heard for the liquor business under similar circumstances.

People know the physical mischief worked by the fireworks in children's hands, and while sorry for business losses, recognize that the public safety is vastly more important.

So, with the clearer knowledge of what drink does to the individual physically, must come clearer vision of what the social results mean, clearer thinking as to what the community has a right and ought to do to free itself from these evils, a more comprehensive view of the moral measures needed for establishing the high ideals and the aids of environment which will contribute to sobriety.

All this demands a thorough, patient work of education. We have not even begun it yet as it should be done to be effective.

We are spending millions on "social tinkering," patching up in hospital, asylum, prison and retreat, the victims of diseased conditions caused by alcohol, and all the time we are turning out new patients to be cared for tomorrow. "Millions for cure, but not one cent for prevention" seems so far to be the policy of philanthropy and the state.

For this work of education, there must be organization, system, money. If it is true, as Le Ben says in "The Training of the Public Mind" that it "requires fifty years to get an idea into the head of the crowd," there is no time to lose. Every generation makes the task greater.

# Class-Room Helps

Conducted by Edith M. Wills

## Emperor William's Advice\*

I WILL give you in addition, some advice upon a question which, in the interest of the nation, I have very much at heart, the question of alcohol and of drinking.

I know very well that pleasure in drinking is an old heritage of the Germans, but we must, by self-discipline, free ourselves from that evil.

I can assure you that in the course of my reign of 22 years, I have observed from experience that of the great number of crimes which have been appealed to me for decision, nine-tenths were due to alcohol.

Formerly, it used to be considered a very smart thing for youth to take and "carry" a great quantity of alcohol, and I myself, as a young officer, had occasion to see such examples, but never imitated them. Those ideas belong to the Thirty Years' War and no longer fit our times.

Without speaking of the results of drink which I do not need to describe, I wish to call your attention, especially, to one effect of intemperance which touches your future profession. As you will observe for yourselves, in the course of your service on shipboard, naval service demands a height of effort which is hardly possible to surpass. It is necessary that you be able to endure this continual heavy strain without exhaustion in order to be fresh for emergencies.

The next war and the next naval battle will demand of you sound nerves. Nerve power will decide the victory. Now, the nerves are undermined and endangered from youth up by the use of alcohol.

Later, you will have opportunity to see the target ships and the effect of modern pro-

\*Speech before naval cadets, Flensburg, Nov. 21, 1910.

jectiles upon vessels, and from this you will be able to form an idea of the conditions in a battle. If you are in one, you will see frightful devastation and a multitude of things happening. Then is the time for steady nerves and a cool head. Victory will lie with the nation that uses the smallest amount of alcohol. That, gentlemen, must be your position. Then through you the troops will be shown an example, and that goes farthest with the men.

Therefore, this is what I expect from you—that here in the naval academy or on shipboard, in all comradeship and friendliness, which need not suffer in any way thereby, you watch yourselves and each other in this regard, that you do not count the use of alcohol one of your privileges.

There are in the navy in the course of formation or already formed, Good Templar Lodges and Blue Cross Societies. Many officers and some hundreds of men belong to them. I hope that you will do everything which you can to persuade the men to join. I do not need to call your attention to the example of the British navy where 20,000 officers and men already belong to these societies, to the very great benefit of the navy.

This is a matter of very great importance to our navy and to our people. If you train the troops to renounce alcohol, I shall have sound and sane subjects. This is a matter of great future importance for the men when they leave the service will carry the thought back to the whole country. If you will uphold these principles, it will uplift the people morally. I pray for your co-operation in this work.—Translated for the *Scientific Temperance Journal*.

## “Nerve Power Will Decide the Victory”

FOR ADVANCED GRADES

**Introduction.** Let the Emperor's speech before the naval cadets serve as the point of contact. What is true of William II as a man and ruler? What general reasons may have influenced him in taking this stand? What responsibility does he place upon the cadets? What results does he hope for? (See above). Is this speech merely the arbitrary expression of opinion without foundation of facts or is it sound advice from the standpoint of expediency, science and statecraft? What reasons for an affirmative answer to the last question? Others could be quoted, among them being the fact that the *Marine Rundschau*, the

official magazine of the German Naval Information Bureau, has published articles along these lines. For instance, the third of a series of comprehensive articles by Brigade General Stephan was published in June, 1906. This article, too long to print, and containing many points already familiar, discussed the following mental operations, reviewed in detail the Heidelberg and some other experiments showing the effect of alcohol on these mental faculties, and applied the knowledge to the conditions and requirements of life on a modern battleship. As their application is so close in many lines of industrial and commercial life

where success is determined by the degree of mental efficiency and as it fits in so perfectly with the Emperor's speech, it may well be followed in developing this lesson.

The faculties discussed are:

(1) Perception; (2) Attention; (3) Association in its wider sense, Judgment; (4) Reaction Time; (5) Innervation of the muscles, particularly in its relation to strength and delicacy of action.

### I. PERCEPTION

**B**Y WHAT means do we become aware of impressions made by sounds, objects, etc., upon the senses of hearing, sight, feeling, taste, smell?

To bring out the absolute dependence of the mind upon the senses, discuss the case of Helen Keller deprived of sight and hearing only, noting that although as we know, she has a wonderful brain, yet she could scarcely develop mentally at all until a means was found to supply to some extent the knowledge these senses should have furnished her.

To show how dependent is the brain for accurate knowledge upon the joint action of the senses, make some simple experiments in class, using objects strange to those experimented upon. For example, let one pupil determine what a bit of onion is by taste alone, and another determine whether a red or a green signal is shown, he being blindfolded, etc.

Whirl a small drum or even a card, upon which figures or letters are printed and show that the brain and eye cannot perceive sensations which pass too rapidly and bring out the point that when fatigued, sensations are less easily perceived. The effects of alcohol on the nervous system are similar to those of fatigue.

Dr. Stephan shows that many tests have proved that sense impressions such as those from sight, hearing, etc., are weakened by the amount of alcohol in two or three glasses of beer. Reading tests very similar to this one of the drum carried out with the greatest precision show that after taking this amount of alcohol, words or syllables were omitted or given incorrectly; the ability to perceive quickly and to retain sense impressions were lessened. Moreover, when an amount of alcohol equal to two and one-half to three glasses of beer was taken in the evening, its impairing effect on perception could be observed in the morning and the ability to memorize was reduced as much as 40 per cent.

### II. ATTENTION

**S**HOW that attention is the power of the mind to grasp and hold for consideration, impressions gained through the senses. In addition, by a series of simple experiments, bring out the following:

Attention, (1) value of; (2) means by which secured; (3) how hindered; (4) how affected by alcohol.

(1) Direct the pupils to study a page of matter for a one-minute period, meanwhile looking about, thinking of a ball game, etc., as much as desired. How much of the lesson is retained? Assign another smaller portion for intensive study for a minute. Compare. Recall feats of Indian scouts, naturalists, etc., due largely to close attention to everything passing under the notice.

(2) By similar experiments, show that attention is secured through (a) interest, and (b) by use of the will in holding the mind to its task. Emphasize the need of choosing worthy things upon which to place the attention; the fact that attention, like muscle, can be strengthened by suitable practice; and the great value of such practice to the will and, so to self-control. How is it true, "that the thing we attend to is the thing we attain to?"

(3) Show that noise and other distractions and fatigue impair the power of attention. What reasons for orderly manners in the school room? What effect upon attention to orders, etc., would the firing in a battle produce? The distractions in various kinds of business? What does William II say is necessary in the former case? Is it true elsewhere?

(4) Recall that one of the effects of alcohol is similar to fatigue. What is the well understood effect of alcohol on the will and the power of self-control? Note also the experiments of Superintendent Joss and of Rudin, showing that alcohol impaired the power of attention according to the amount of alcohol used.

### II. POWER OF ASSOCIATION

**M**ENTION some familiar naval battle as that of Manilla Bay. Question class as to the thoughts it brings to mind. Show how valuable is this faculty which enables us to marshall a wide range of facts to the aid of a single idea. Speak of memory in this connection. Show pictures of brain cells from the gray matter, explaining the manner in which these fibres are supposed to perform this wonderful work. Show picture or draw diagram illustrating damage to these fibres by the use of alcohol. What happens if a telephone line gets down? Compare to these broken-down conditions.

Bring out clearly, the relation of association to judgment, noting that accurate judgment and hence suitable action, depends largely on this faculty. Success or failure in every department of life must depend upon sound cells or damaged ones and alcohol has only one effect, to break down.

Kurtz and Kraepelin, carrying on experiments for a number of successive days, part with alcohol and part without, announced as

the result: "On the whole it is obvious that on the non-alcoholic days the associations are more rational, specific, penetrating, manifesting closer observation; on the alcohol days, on the other hand, they were more confused, foggy, sentimental and general. The promptness of the association is greater on the non-alcoholic days."

#### IV. REACTION TIME

HOW long does it take for the runner to start after he hears the crack of the starter's pistol? For the batter to strike the ball after he sees it leave the pitcher's hands? What effect on every one

### How the Grapes Came to do Harm

ONE day little brown-eyed Carina Ferreo came to school feeling not a bit like herself. Her eyes were so heavy and her head so dizzy that she could not half see the pretty pictures in her book or understand what Miss Prescott was explaining to the children.

"What is the matter, dear?" said the teacher, noticing how ill she looked.

"I don't know," said Carina. "I feel so sleepy, I can't get my lesson."

Miss Prescott asked if she sat up late the night before for she knew that makes children feel stupid the next day. But Carina went to bed early as little children ought.

"Has my little girl been eating a good deal of cake or candy?" she said. No, Carina had not had cakes and candy.

But the teacher knew that wrong things to eat or drink make children sick oftener than anything else, so she asked Carina to tell just what she had eaten for lunch.

"I had some bread and some of father's wine," said the little girl. "Sometimes we have grapes with bread; I like them better."

"Ah," thought the teacher, "now I can guess what made the trouble. Tomorrow I must teach all the children the difference between grapes and wine."

She let Carina go home, and the next day they had a lovely lesson with purple grapes and grape juice, and they wrote little stories about grapes and colored pictures of them.

Miss Prescott sent a kind little note to Carina's mamma explaining things and after that Carina was not sick and stupid again.

#### I. THE RIGHT WAY TO USE GRAPES.

READ or tell the little story of Carina and tell the children that they can have a lesson like the one in Carina's school. Show the grapes, or, the pictures and recall the appearance. What different kinds? Where do they come from? How are they

of the nine as the batter strikes? What difference between the first instance where only one kind of an action is to follow the signal and the others where every boy interested has to decide after noting the signal what action he will take? Which is more important *simple* (like the first) or *choice* (second) reaction time?

Suppose an important game of ball. Other things being equal, which nine would carry off the trophy if in one nine the pitcher and the catcher always had to delay the response to the signal one-third longer than the normal? Alcohol lengthens both simple and choice reaction time. Discuss the effects of drink on business, as that of engineer, etc.

grown? Show pictures of vineyards. What are some of the uses of grapes? Show the jelly or marmalade and the grape juice. Give each pupil in his own cup a little drink of the grape juice (which can be somewhat diluted to make it go further), directing each to taste it carefully. What flavors are there? (Some note the sweet, some the acid, and some the grape flavor). Is there sugar in other fruit juices? Is there acid, that is, something like vinegar or lemon juice? Does each fruit have its own flavor as well? Explain that the sugar in fruit is a particularly good kind, and that the acid is also especially useful to keep the body healthy.

Emphasize the value of fruit of all kinds, but warn against that which is either unripe or over-ripe. Grapes and grape juice are also excellent for the sick. They are delicious and wholesome.

There is another way in which grapes can be treated so as to make them nourishing and wholesome. Who can tell what it is? (Show bunch of raisins and the dried currants.) Explain very briefly how they are cured. How do we often use them? Point out that it is better for children to eat them when cooked than uncooked. Show that as they are highly nutritious food, only a very few should be eaten at a time and then they must be very thoroughly chewed. Fresh grapes or fresh grape juice or raisins taken in proper amounts would make one feel well and help her to grow strong, and to grow pretty too, because the acids are good for the complexion. They are like apples and other fruits that way. Instead of making one's head ache, they would help keep headaches away.

#### II. THE WRONG WAY TO USE GRAPES

WHO remembers what Carina had for lunch that made her feel so miserable? Surely the bread could not have made her sick? What was it? Who



knows what wine is made from? What do you suppose could have happened to the delicious, healthful grape juice to make it just turn right around and make her sick instead of keeping her well?

I will tell you. Carina's father and mother came over from beautiful, sunny Italy where, as we saw, there are many vineyards. They loved the beautiful grapes, red, purple or yellow, and often crushed their juices out for a beverage. When they came to America so that Carina could have a better home and good schools, they still wanted them. So in the summer they bought a lot of grapes and pressed out the juice. They made a little barrel full of it so they could have grape juice for a long time.

But they never heard of the little thieves floating round in the air or resting on the grapes which love to steal the sugar in grape juice and leave a poison in its place, and so they took no pains to keep them out of the barrel.

Here is a picture of them. (Show picture of yeast plants in text-book or the one on p. 60, Dec. *Journal*.) They were far tinier than the pictures. No one can see them without a magnifying-glass. See the little buds on the sides; those are their baby plants which come very fast. Soon there were whole armies of the tiny robbers, and they changed the grape juice until, after a time, it was no longer sweet and delicious, but was sourish. If Mrs. Ferreo had tried to make jelly she would have failed. Really the grape juice was spoiled. It had bubbles in it, and had a stinging taste that came from the poison the yeast plants left in it. We call this poison alcohol. It wasn't real grape juice any longer but wine. Carina's parents did not realize what really had happened and so they gave it to her to drink.

Now alcohol is not so strong as many poisons, but even the little there was in the wine went to Carina's head and made it ache and hindered her from learning her lessons. That is the trouble with drinks that have alcohol in them—cider and beer have it too—they nearly always hurt one's head and may make one sick in other ways. The more one uses, the more harm is done. Often when people use such drinks for some time they grow so fond of them they cannot stop at all, although they are sadly poisoned.

When Mrs. Ferreo received Miss Prescott's friendly note telling her how sorry she was that little Carina was too ill to stay at school and that she thought it was the wine that made her sick, she decided that Carina should always have milk with her bread at lunch.

Afterward Miss Prescott told Mrs. Ferreo

just how to boil fresh grape juice to kill the little robber yeast plants and then put it in tightly-corked bottles so no more could get in. That is how our grape juice was kept so sweet and wholesome. It would stay that way for years.

Now we will write the lesson story on the blackboard and you may copy it. Leave a wide margin so that when it is done you can cut out and paste on the pictures of the grapes; you may color them, too, during the drawing period.

(For the Blackboard.)

Grapes and grape juice are very good to keep us well.

Jelly and raisins and currants are made from grapes. They are good for food.

If we do not take care of grape juice it will spoil. It changes into wine.

The yeast plants make alcohol in the wine.

Wine is apt to go to one's head or make one sick.

It is not safe to drink wine or any drinks that contain alcohol.

"Apples, red apples, we'll pick from the trees  
But cider,—no cider for us of you please.  
Grapes, purple grapes for your eating and mine,  
But we'll turn down our glasses  
Where pours the red wine."

**Lesson Points:** I. The value of grapes and the good use of them. II. The harm from the bad use of them.

Be sure to make clear to the children what many grown people do not yet know, that although no alcohol is put into the grape juice, it will come there through the action of the yeast plants. In some places, Italians do make wine in just the manner mentioned.

Be careful to leave a right idea regarding poisons. It is the nature of alcohol to harm the health, so it is a poison though it is not so quick or strong as Paris green or some others. But it is more dangerous (1) because people are not so much afraid of it and use it, and (2) because it can create an uncontrollable craving for itself.

If occasion requires, explain what many people do not yet understand fully, how harmful drinks containing alcohol are, and in all countries some of the wisest and best people are teaching their countrymen and urging them to stop all use of the alcoholic drinks.

**Material:** A bottle of grape juice (probably the grocer or the manufacturers would donate a sample bottle for the purpose), a jar of grape jelly or marmalade, a bunch of raisins on the stem, some dried currants, (which are small grapes) and pictures of vineyards. Also provide or have the children bring a sufficient number of pictures of grapes for each member of the class. The advertisements of certain brands of grape juice and of baking powder are to be found in many of the popular magazines so a supply can easily be obtained.

**Suggestions:** For busy work let the children cut out the pictures of the grapes from the advertisements, paste them neatly on a good-sized sheet of paper and color them, the lesson story (see "blackboard") being written in the center or underneath; or, the children may draw bunches of grapes or leaves, and cut them out. The lesson story may be written on a large "leaf."

In language the children may reproduce the story of Carina and add to it one or two statements to the effect that it was the wine that made her stupid and sick and wine contains alcohol which is harmful to grown people as well as to children.

Let them look up Italy on the map and find the countries which export raisins and currants.

# A 62-Mile Walking Match

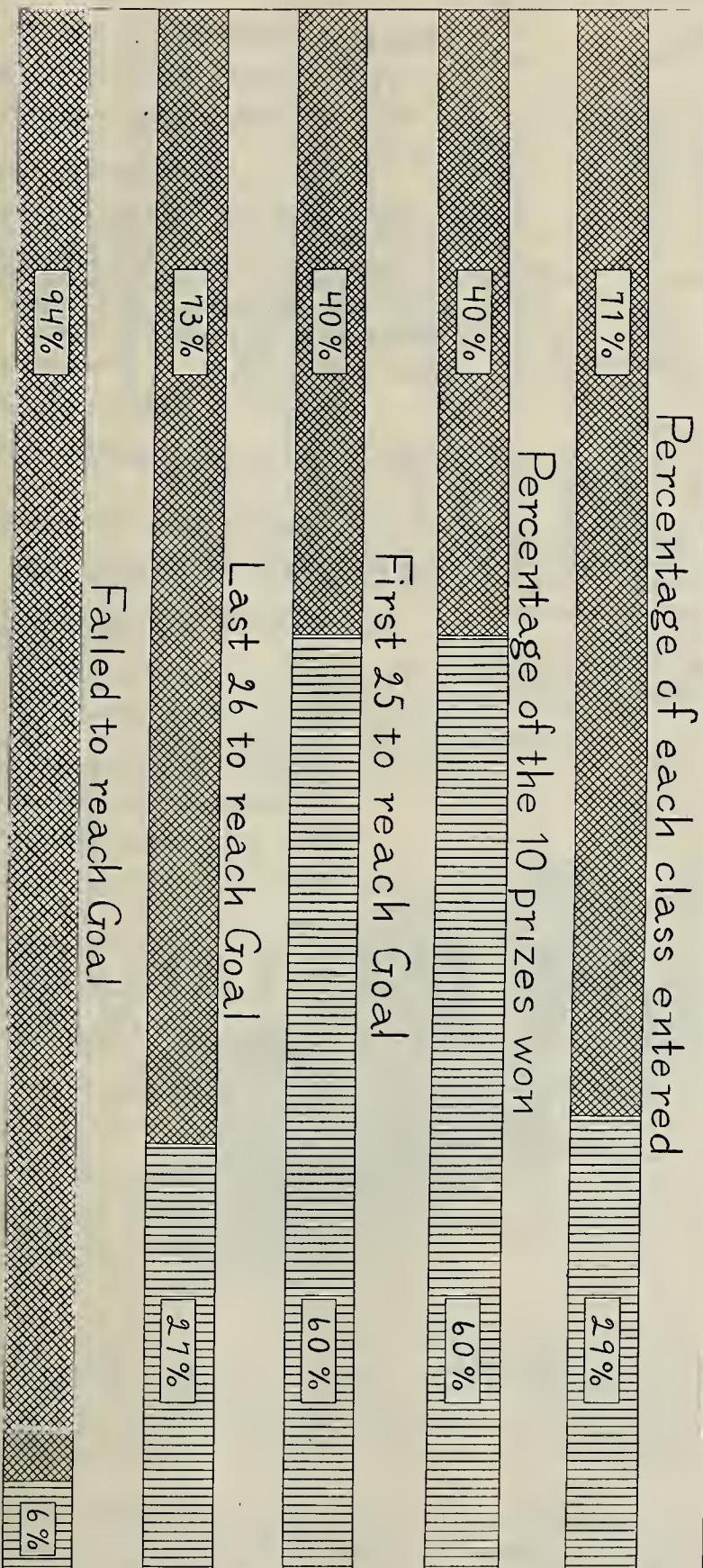
... . . . BETWEEN . . . .

## Abstainers and Moderate Drinkers

Match held at Kiel, Germany, 1908.

*Moderate Drinkers* (59) represented by diagonal lines.

*Abstainers* (24) represented by vertical lines.



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Abstainers won 1st, 2nd, 3rd, 4th, 8th and 9th places. Moderate Drinkers won 5th, 6th, 7th and 10th places.  
Two of these "moderates" had lived abstinent for months before the contest.  
"Importance of the victory less in abstainers winning than that a majority of drinkers fell out."

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ANTI-NARCOTIC NUMBER

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Our love and toil in the years to be,  
When we are grown and take our place,  
As men and women with our race.

Father in Heaven who lovest all,  
Oh help thy children when they call ;  
That they may build from age to age,  
An undefiled heritage !

Teach us to rule ourselves alway,  
Controlled and cleanly night and day ;  
That we may bring, if need arise,  
No maimed and useless sacrifice.

Land of our Birth, our Faith, our Pride,  
For whose dear sake our fathers died ;  
O Motherland, we pledge to thee,  
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—Kipling in "Puck of Pook's Hill."

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# Scientific Temperance Journal

Vol. XX

BOSTON, APRIL, 1911

No. 8

## The Children's Right: The Nation's Salvation

THE children are the legal heirs to every truth of science that warns against the use of alcohol and other narcotic poisons. To deprive them of these truths is an unspeakable sin, not only against the children, but also against the nation soon to be governed by them.—*Mary H. Hunt.*



## Smoking as a Handicap to College Students

BY CORA FRANCES STODDARD

Based upon a report (*Popular Science Monthly*, Aug. 1910) on 223 Freshmen and Sophomores of Columbia University by Dr. George L. Meylan, Columbia University

THE question of the effects of tobacco upon the smoker has received much attention from moralists, educators, physicians and scientists. This study was directed to determine if smoking exerts any influence on the physical and mental characteristics of college students. 223 men were recorded. Of these 52 per cent. were smokers, 48 per cent., non-smokers.

### AGE AT WHICH SMOKING BEGAN

FOR PARENT and teacher the age at which the boy begins to smoke is of importance. Ninety-five per cent. of these college smokers acquired the habit between fourteen and nineteen years of age. Four per cent. began before the age of fourteen, but at the beginning of adolescence there is a prompt increase which continues to rise reaching the highest point at the seventeenth year, in which more than one-fourth of these young smokers contracted the habit.

### PHYSICAL CONDITIONS

IN THE physical measurements and tests of smokers and non-smokers there was very little difference, owing in part to the fact that the smokers averaged about seven and one-half months older than the non-smokers. This fact, however, does not prove that the use of tobacco by youth may not interfere with growth. Indeed, Dr. Meylan says: "All scientists who have studied the physiological effects of tobacco are agreed that it has a depressing influence on the heart and circulation, also, that anything which interferes with the vigor of the circulation has a retarding effect on growth."

The period of greatest activity in growth is from the thirteenth to the sixteenth year, and more than sixty per cent. of these college men had not begun to smoke until after

the sixteenth year, which may be one reason why they showed no marked physical inferiority.

Dr. Meylan's report shows, moreover, that the smokers as a rule belong to a class of students having larger means, and therefore a more favorable physical environment, better nutrition, etc., than the non-smokers; their measurements should be larger on that account. As President Butler of Columbia points out in his annual report for 1908-9, quoted by Dr. Meylan, there is today "a new type of college student who goes to college primarily for a social, not for an intellectual purpose. His wish is to share in the attractive associations; he desires to participate in athletic sports; he hopes in after life to mingle freely and on terms of equality with college-bred men."

"This type of student," says Dr. Meylan, "is a good fellow, he dresses well, has a generous allowance, belongs to a fraternity and tries to 'make' some varsity team... He spends much time in social intercourse and athletics and gets few high marks, mainly because he does not try to get them. He smokes because he has the time, the money and the opportunities to indulge in the practice."

Since the smokers participate in athletic exercises more than the non-smokers, "their physical measurements should be larger on that account."

But in spite of the fact that the smokers had conditions more favorable to a strong physique, they showed little if any superiority over the non-smokers. "That they are not appreciably heavier, taller and stronger than the non-smokers may be due to the depressing influence of nicotine on the circulation and consequent interference with normal growth."

### COLLEGE SMOKING NOT A SAFE EXAMPLE TO IMITATE

THE BOY who begins the use of tobacco in his teens because he thinks it manly and because he sees his brother use it, as he supposes without harm, ought to be early taught that the facts show that even the college man, more mature than the boy, suffers injury, especially at the point which is supposed to be the main reason for going to college—his scholarship; that this injury comes not only through the smoking itself, but as Dr. Meylan shows, through the "idleness that is closely associated with the use of tobacco."

As for the present danger to the boy himself, "all scientists," says Dr. Meylan, "are agreed that the use of tobacco by adolescents is injurious; parents, teachers and physicians should strive earnestly to warn youths against its use."

### POORER SCHOLARSHIP AMONG SMOKERS

DR. MEYLAN'S study of Columbia students like that of Mr. Clarke, of Clark College, showed that the smokers had distinctly poorer scholarship.

### SCHOLARSHIP RECORDS OF THE 223 STUDENTS

Classification of Students	Average marks at entrance
223 students	90 per cent.
115 smokers	89 " "
108 non-smokers	91 " "

The fact that the smokers were about eight months older than non-smokers when they entered college would seem to indicate that it had taken them longer to accomplish a given amount of school work than the non-smokers. As "age seventeen is the time when most boys begin to smoke, if for any reason a boy is older than the average when he enters college, there is more than an even chance that he will have acquired the smoking habit in the secondary school. The type of student who is primarily interested in social life and athletics is found in secondary schools as well as in college; three out of four of

such students smoke, and they are usually graded low in their studies."

### SMOKING MIXED WITH OTHER CAUSES IN LOWERING SCHOLARSHIP

MR. CLARKE, in closing his report on smoking among Clark students pointed out the fact that this habit is mixed with others tending to lower scholarship in which "smoking is a vital part of the difficulty. The club room is a lounging place where smokers are tolerated. A man who dislikes tobacco is seldom seen there. He is, therefore, under little temptation to waste time. Hence the smoker is the one who wastes the most time around the college grounds. This is but one of the conspicuous examples leading to the conclusion that smoking is an indicator of other evils as well as being harmful in itself."

Dr. Meylan carried his studies farther, into the rank in scholarship of men conspicuous in athletics and members of fraternities. Of the smokers 42.6 per cent. were members of fraternities; of the non-smokers 15.7 per cent.

Marks during first 2 yrs.	Failures during first 2 yrs.
66 per cent.	7 per cent.
62 " "	10 " "
69 " "	4 " "

The following table shows a close relation between smoking and membership in college fraternities:

### STUDENTS WHO BELONG TO COLLEGE FRATERNITIES.

Of 223 students	66 or 29.4 per cent.
Of 115 smokers	49 or 42.6 per cent.
Of 108 non-smokers	17 or 15.7 per cent.

Other tables show that there were more smokers among athletes and a great many more among fraternity men than among all students.

"Smokers, athletes and fraternity men [on the average] have lower scholarship records than other students."

### Tobacco Favors Tuberculosis

THE HENRY PHIPPS INSTITUTE for the treatment of tuberculosis reports that tobacco users make very unfavorable progress as compared with those who do not use it. In 1907, 15.58 per cent. of those who used tobacco died as compared with only 5.15 per cent. of those who did not use it; 45.36 per cent. of those who did not use it improved, but only 37.54 per cent. of those who used it.

"The preponderance of favorable results for those who did not use tobacco" says the

report, "is not quite as large as the preponderance of favorable results for non-alcoholics, but it is also pretty large.

"The damaging influence of tobacco in tuberculosis," the report continues, "is probably exercised through the circulation. Tobacco undoubtedly depresses the heart and interferes to some extent with vigorous circulation. It is generally conceded that anything which depresses the circulation interferes with nutrition and consequently predisposes to tuberculosis, both in implantation and development."

## A Page from the Book-keeping of Humanity

BY REV. U. F. MUELLER, C. PP. S.

**T**HREE died in the decade 1900-1909 nearly 14,000,000 persons within the confines of the United States. Of these 55,000 died of alcoholism.

This term, according to the express statement of the census office, "does not include deaths from alcoholic cirrhosis of the liver, general alcoholic paralysis or certain organic diseases due to the use of alcohol." The latter two can not be separated from other cases. But cirrhosis caused the death of about 125,000 other victims. Most of these deaths, at least between ages 24-64 (and they numbered 95,000, the great majority), are due to the use of alcoholic beverages.

150,000 persons, therefore, may be said to have died, within ten years, of these two forms alone of acute and chronic alcoholism.

Of the 14,000,000 general deaths, 8,400,000 were either children and young people below 24, or persons above 64 years of age. Of the remaining 6.4 millions between 24 and 64 years of age, 3,000,000 were men and 2,600,000 were women.

## DEATHS DUE TO ALCOHOL-CAUSED DISEASES

Of the 3,000,000 deaths of men, about 60,000 were due to cirrhosis and 47,000 to alcoholism. 31,000 women out of 2,600,000 died of cirrhosis and 7,200 of alcoholism.

In other words, approximately\* *one death in every 30 among men was due to one of the worst forms of alcoholism. One in every 70 women between 24-64 years of age died of a like cause.*

But the data of the following study are derived from the United States mortality census, comprising for 1900-1904 the six New England states and New York, New Jersey, Michigan and Indiana and 74 cities in the other states, thus including over 30,000,000 of people or 40 per cent. of all the population of the United States.

In the 1905-1908 report, which was also used, California, Colorado, Maryland, Pennsylvania, South Dakota and Wisconsin have been added thus comprising 45,000,000 or 50 per cent. of the population.

The mortality statistics are, therefore, fairly representative.

## DEATHS FROM ALCOHOL IN THE PRIME OF LIFE

We may next inquire at what ages the victims of alcoholism sink to their graves.

From 1900-1904, cirrhosis and alcoholism claimed of every 1,000 deaths:

\*These results are derived by computation and hence rather approximate than exact.

At 24-34 years	15 deaths
" 35-44 "	30 "
" 45-64 "	26 "
" 64 and over	10.2 "

That is to say, the majority of the victims fall in the prime of manhood and womanhood. The figures show that the heaviest results of drinking in these diseases reach their maximum at 40-50 years of age; the maximum being reached by men somewhat earlier than by women. Since women as a rule do not use as much of the stronger drinks as men, their entire death-rate from the use of liquor is about one-half that of the men.

## COMPARISON WITH OTHER DREADED DISEASE

Even this, however, does not give full conception of the awful slaughter due to these worst forms of alcoholism. Some idea of this may be gained by grouping the deaths in the registration area (1900-4) from alcoholism and cirrhosis with a few other well known dreaded causes of death among persons 24-64 years of age.

	MEN
Apoplexy	29,000
Cancer	25,000
ALCOHOLISM & CIRRHOSIS	18,860
Typhoid	15,800
Appendicitis	4,400
Dysentery	1,850
Diarrhoea & Enteritis	5,700
Smallpox	1,780
	13,730

	WOMEN
Childbirth	15,800
Typhoid	10,000
Appendicitis	3,100
Dysentery	1,950
Diarrhoea & Enteritis	5,100
ALCOHOL & CIRRHOSIS	6,610
Smallpox	1,070

## OCCUPATIONS AND THE ALCOHOLIC DEATH RATE

The death-rate from alcoholism and cirrhosis in the various occupations is also of importance.

The census office furnishes data on this point only for the year 1908. But this, fortunately, was the year of the decade 1900-9 when the alcoholism death-rate was lowest, and therefore may be called fairly representative, especially if we link with alcoholism the death-rate from cirrhosis which is a slower-working result of drink and which in that

year had a death-rate rather higher than the average.

The total death-rate per 100 in the various occupations from these two alcoholic diseases may be classified as follows, the occupations being named in the order of increasing death-rate:

Less than 2 alcoholic deaths per 100: clergymen (1.3) railroad employees, civil engineers, hucksters, sailors (not U. S.), farmers, teachers, janitors, (1.9).

Less than 3 alcoholic deaths per 100: machinists (2), physicians, miners, lumbermen, stone cutters, iron and steel workers, gardeners, tailors, lawyers, bookkeepers, blacksmiths (2.9).

Less than 4 alcoholic deaths per 100: engineers [not locomotive] (3.00), plasterers, architects, artists, merchants, agents and collectors, hack-drivers and draymen, bankers, painters, traveling men, cigar-makers, masons, plumbers, printers and pressmen, servants, glass-blowers (3.9).

Less than 5 alcoholic deaths per 100: barbers (4.1), pharmacists and apothecaries, soldiers and sailors (U. S.), musicians, teachers of music, livery stable workers, journalists, butchers, bakers (5.00).

The alcoholic death-rate of brewers and distillers was 5.1 per 100; of hotel and boarding house keepers 8.8, while saloon keepers and bar-tenders had the highest rate of all, 11.1 per 100.

Note that this means that the death-rate from these diseases was highest in the occupations where the handling of drink afforded the greatest opportunity for using it, and that 1 out of every 9 deaths of saloon men was due to one of these two alcohol-caused diseases.

This is not a lovely picture of the cost of alcoholism in human life, especially if we keep in mind the fact that it represents the deaths from only the worst forms of alcoholism, and does not represent at all the thousands of deaths from other diseases of which alcohol is one cause.



I REGARD the cigaret as a fuse of infernal fire tending to explode the worst passions of the body. In dealing with more than sixteen thousand delinquent children of this city during the last eight years, I find as a rule, the user of cigarettes is a stunt, a weakling, in body, mind and morals.—ZED H. COPP, *Chief Probation Officer, Juvenile Court, Washington, D. C.*

#### BIBLE WINES

The National Temperance Society, New York, is now able to furnish for only \$.35 (paper) this new book by Fenton Ferrar, with modern translations of all Biblical passages referring to wine and its use.

### The Socurcge of Cancer

BY IRVING WILSON VOORHEES, M. S., M. D.  
Vanderbilt Clinic, New York.

**I**N CANCER of the lips and tongue, the frequency of which in the male has always provoked great interest, the irritative action of tobacco and decayed teeth (dental caries) influence its origin. One surgeon has collected seventy-seven cases of cancer of the lip, in which he has always found these two antecedent agents. Of four women affected with cancer of the lip, three were addicted to smoking. Another author has established statistics of 245 cases of cancer of the tongue, the histories of which show the never-failing presence of these two agents....

Cancer of the mouth begins as some little sore that does not readily heal up, or heals up only to break down again in a few days. Now if this sore is opposite the root of an old tooth, or if it is on the lip, where the pipe or cigar subjects it to constant irritation, this fact is exceedingly suggestive of cancer, and you should not be satisfied with anything short of the best medical opinion that can be had....

In the light of our present knowledge, one may conclude that cancer is relatively preventable if all sources of body irritation are removed just so soon as they appear, such as decayed teeth, the use of the pipe, or cigar, [injuries], etc., and if the general health is kept at par or above.—THE INDEPENDENT, (Mar. 23, 1911.)

### Smoking Induces Premature Puberty

By BRIG.-GEN. A. A. WOODHULL, M. D., L. L. D.

**W**RITERS of authority say: "It [cigaret smoking by boys] is said to induce premature puberty"; by its depressing and disturbing effects on the nerve-centers it creates sexual propensities and leads to secret practices, while permanently imperilling virile powers."

Premature puberty means that the great special ganglia and the reproductive secreting organs have been called into action before nature is prepared for their operation. In this case it would arise from the incoordination of those centers through the disturbing influence of the nicotine.

Not improbably, *mutatis mutandis*, tobacco creates a like influence in both sexes, but girls have no such opportunities for excess as boys. Certainly small boys who have embraced the cigaret habit are liable to be degenerates as well.—*American Health*.

## The College Records of Ten Smokers and Ten Non-Smokers

BY CORA FRANCES STODDARD

EN young men entered Clark College in the classes of 1907-10 who began to smoke after they came to college. In a study made of the effects of smoking on the men of that college (*Clark College Record*, July, 1909) these ten men were compared with ten other men who never smoked. The latter were chosen alphabetically from the class rolls. An interesting story unfolded itself which is represented in the accompanying diagram.

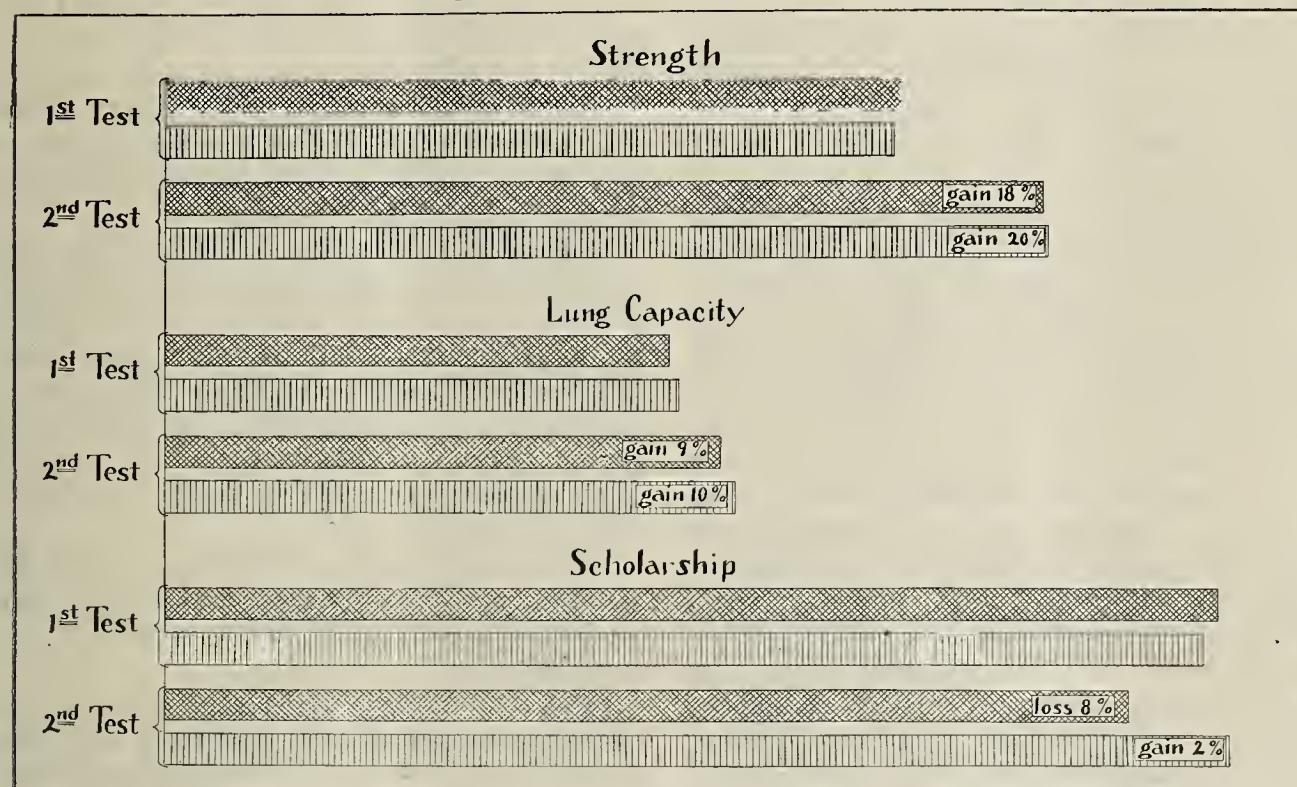
## THE NEW SMOKERS FALL BEHIND NON-SMOKERS IN STRENGTH

Two sets of physical tests at an interval of time were made of their physical condition. When the first test of strength was made,

ond test, they were even more ahead. Between the two tests, the ten smokers with their eight "athletes" gained nine per cent. in lung capacity; the ten non-smokers with their four athletes gained ten per cent.

## WHERE THE SMOKERS LOST GROUND

WHEN these ten young men who became smokers had entered college, they had a better rank in scholarship than the ten non-smokers. But the final records showed that the *non-smokers gained 2 per cent. in scholarship*, pushing up above the mark the smokers originally reached, while the *smokers lost 8 per cent.* in scholarship. "The smokers lost ground not only relatively, but absolutely. When they left, they were very much poorer students



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than when they entered."

Thus the young man who entered college free from the smoking habit, and under superior conditions of physical and mental equipment found themselves outstripped both in body and mind by the ten men who never smoked.

The study is of particular interest because it indicates not only that the boy but the young man who forms the smoking habit after boyhood may fall behind in physical and mental efficiency.

## LESSON SUGGESTIONS

Use this article and the one on nerves (p. 120) and the two charts to teach the lesson: Tobacco using, even by superior, full-grown men, impairs physical and mental efficiency and in a short time. Growing boys are injured much more, often permanently. The effects of nicotine accumulate and the injuries increase, especially after age 40. (See also pp. 109 and 114.)

these men of the newly-acquired smoking habit were somewhat stronger than the non-smoking men, so they had an advantage at the start. After they began to smoke, the non-smoking men not only overtook them, but passed them. The smokers gained 18 per cent. in strength; the non-smokers 20 per cent.

## EVEN ATHLETICS DID NOT GIVE SMOKERS LEAD IN LUNG CAPACITY.

EIGHT OF these ten men with their new smoking habit were known as athletes and would naturally be supposed to gain more physically than the ten non-smokers for of the latter but four were athletes. The two groups were tested on lung capacity. In the first test non-smokers were ahead; in the sec-

## Swedish Campaign against the Cigaret

**W**HEN an evil becomes as widespread as the present cigaret habit among boys, the single efforts of a few individuals here and there have only a small effect. The opposition must be as general as the evil in order to make much of an impression.

How such an opposition movement may be originated and carried forward is well illustrated by the thorough and energetic campaign organized in Västeras, Sweden.

In this town as in others in Sweden the use of tobacco by children has become so common that, according to a report in *Hvita Bandet*, little five-year-olds are sometimes seen with cigarettes in their mouths. [This is true of some American cities, also.]

The seriousness of the situation aroused a few moving spirits in the town to see what could be done about it. A committee of women physicians was chosen to take the matter into consideration.

After several deliberations, this committee recommended that the temperance and religious societies of the city be asked to co-operate, so that a large and influential backing could be obtained for arousing as strong a public sentiment as possible against the evil.

Representatives appointed from twenty-two local societies came together and passed a series of resolutions, providing among other means, (1) a petition to the city government to give the police authority to take cigarettes away from children found smoking them; (2) use of the press to arouse public opinion on the subject; (3) arrangements for a large public meeting where the matter should be treated by able speakers from the medical, hygienic, pedagogical and other standpoints.

An executive committee was appointed to carry out the provisions. On their committee was a city public school inspector, a police

commissioner, and a man and a woman pledged to lead in forming a large juvenile anti-tobacco organization.

The speakers were secured—a physician and a teacher—and a large and successful meeting was held where further resolutions were adopted calling public attention to the widespread evil of tobacco smoking among boys and girls, and the harmful effects upon their health and development.

The resolutions asked the city tobacco sellers, kindly, but firmly, not to sell tobacco in any form to children. They asked the city rulers to take the most active measures possible to stop the selling to minors. They asked school authorities and teachers to take especial care that the children received scientific instruction in school concerning the nature and injurious effects of tobacco.

Copies of the resolutions were sent to the city authorities, including the school officers and to all tobacco dealers, including the restaurant proprietors.

Favorable replies were received from the municipal officers and from the tobacco sellers who cheerfully promised—with the exception of a few small ones unable to resist temptation—not to sell to children. And, encouraged by the public sentiment thus aroused, the public school teachers worked with new energy against the smoking habit among the school children.

The large executive committee was not discharged, but kept standing to continue work against the evil until results should be accomplished.

Such an effort to use one of the strongest of moral forces—public sentiment against a dangerous evil, may well be copied with every prospect of success, by towns and communities everywhere.—*Translated for the SCIENTIFIC TEMPERANCE JOURNAL.*

## Striking the Man Through the Boy

**T**HE writer of this article is a teacher who has studied boys under unusually favorable conditions. Besides this the writer has been the physical director in two schools, gymnasium director in a third, and has taken very active part in the athletics of all the schools with which he has been connected. These several factors have made it possible to enter into a real comradeship with very many boys.

First of all, it was a matter of surprise to learn the number of boys, of different ages,

who were smoking more or less; for instance, 15 per cent. of the 12-year-old boys, 20 per cent. of those 13 years old, 38 per cent. of fourteen, 29 per cent. of fifteen, 57 per cent. of sixteen, and 71 per cent. of seventeen-year-old boys were either smoking or had smoked recently. This great number seems almost unbelievable, but it is based upon very careful observation, and upon many heart-to-heart talks. Furthermore, it is interesting to note that all of the five hundred boys studied were private-school boys, who are supposed to have

better care than those going to public institutions, so that it is possible that in the latter schools the percentages would be higher. And then, again, it is more than probable that the percentages were actually higher among the boys studied, for there were doubtless many boys who smoked more or less of whom the writer had no certain knowledge. But even were these percentages half as large, the problem would be one for serious consideration, especially after one has compared the school grades of the smokers and non-smokers, as the writer has done. The following for instance, gives the average school grades of smokers and non-smokers between the ages of twelve and seventeen, inclusive, the entire number of boys being, as has been said about five hundred.

#### SMOKING LOWERS GRADES

Age .....	12	13	14	15	16	17
Grade of non-smokers.....	83	90	80	84	87	85
Grade of smokers .....	73	75	73	75	75	68

If these figures are anywhere near correct (and the writer has every reason to believe them to be an under-estimate, if anything), then there can be no doubt as to the effect of smoking upon the mentality of the growing boy.

Of course there are other considerations. For instance, the good student is generally more likely to stay at home than other boys, and it is the other kind of boy, the out-of-doors boy, who is likely to take up smoking. Generally, too, the boys who stand highest in the class are not so fond of outdoor sports as those who rank below them; and again, it is the latter type, as much through pure boyish "devilment" as anything, that takes up smoking thinking there is something "sporty" about it. Beginning in this way, however, the sport finally become a habit. But even after considering these points, the percentages are too large to be accounted for by such excuses, so that we are driven to the almost undeniable conclusion that the effect of smoking upon a boy's mind is very serious, putting his mental efficiency from 12 to 15 per cent. below that of the boy who does not smoke.

#### MORAL STAMINA IS WEAKENED

And so, as was to be expected, the writer found that the boys at the bottom of the class are almost always smokers, that they are generally older than the average of their class, generally possessing less self-control, generally less honest in their work, and hence, usually very troublesome. There is a vast difference between the boy who is naturally "slow" but who tries conscientiously to progress, and the boy who has dulled his mind by smoking, and

is perhaps careless as to whether he advances or not.

To be sure there are other habits among boys which tend to make them inefficient and dull, but the writer has found it to be a fact that boys possessing such habits are generally smokers, and, indeed students of "boy psychology" will frequently say that smoking is likely to put a boy in such a condition that other and worse habits will be taken up, largely on account of a weakened moral stamina.

#### GROWTH IS HANDICAPPED

It is usual to say that a boy's smoking is likely to stunt his growth, and indeed the writer has found by means of many physical measurements, that the smoker is commonly below the average size for his age. But on the other hand, there are found not a few smokers, and steady ones too, who are quite tall and broad for their years. But in almost every such case the writer has found the well-grown smoker to be more than dull mentally, while sometimes the little "stunted" ones are quite bright. From this the writer has concluded, perhaps with some reasonable basis, that smoking is very likely to stunt something, most probably the mind, or perhaps the body only, or sometimes both mind and body, as is the most usual case, in the writer's opinion.

#### SCHOOL AND HOME MUST ACT

Perhaps as interesting a phase as any is the laxity, in the observance of the law, which has made such smoking possible. Almost every state has regulations concerning the sale of tobacco to boys. ....

That so many boys smoke, then, is a great evil, and the responsibility must be laid to the administrative authorities of our cities for not making effective such laws as cover the evil, to the schools which fail to give a rational education to the children in their charge, and finally, the responsibility must be laid to our homes, and there lies the root of the condition of things. For if the homes should insist upon a carrying out of the law, and assist that carrying out, the average dealer would think long before selling tobacco to a boy. Then, too, should the homes insist upon it, the schools would take the matter up, and impress the boys, at the most impressionable time in their lives, with the gravity of yielding to this harmful habit. And then, if the homes did their duty by their own children, smoking among boys would rapidly decrease.

It is in the hope that many homes will look upon the matter in a new light that the writer has written this article.—*The American*.

## Impairment of Eyesight by Tobacco

BY FRANCIS DOWLING, M. D., CINCINNATI

How tobacco impairs the efficiency of the workers who are preparing it for use is told in this summary of an interesting report (*Lancet Clinic*, 1908) of an investigation made in tobacco factories of the effects of tobacco on eyesight. It should be noted that it was not the handling, but the use of the tobacco which affected eyesight unfavorably.

HERE are from fifteen to eighteen grades of tobacco used in our factories. The packers of the cigar factories have to be very careful in getting the proper shades of tobacco together in the boxes, each of which is marked with the packer's name. If there is an off-shade in the box, the packer is called to time for his mistake; if the mistake is repeated, he is let go or given other work that does not require as keen a color perception as packing. In this way the heavy smokers can be detected in the factories by their waning color sense.

### HABITS OF THE EMPLOYEES

INVESTIGATIONS showed that none of these men [those selected for examination] drank to any great extent. The women, up to the present time, seem to be practically exempt from this trouble. Out of fifty examined in our tobacco factories some years ago, only one was found to have this disease (amblyopia), and that to a slight degree only. She was an old-time employee in the stripping department.

Of all the male employees in the factories examined into, 90 per cent. use tobacco in some form or other. About 10 per cent. chew tobacco in addition to smoking liberally a pipe or cigars before and after working hours. The ventilation of the workrooms was, as a general thing, as good as could be expected in establishments of this kind.

### CONFUSION OF COLORS

THE principal colors confounded by those who were examined were: red, confounded with pink, dark brown or black, the latter usually in the pronounced states; green confounded with light blue or white.

The men examined ranged in age from 35 to 68 years, and were among the heaviest consumers of tobacco in the factories, so that they were among the best subjects that could be selected for the object in view, viz., ascertaining the effect of tobacco on the eyes.

As a result of all my investigations in this department, the following would be a fair résumé of the principal symptoms which characterize chronic tobacco poisoning affecting the organs of vision.

### IMPEDIMENT APPEARS IN MIDDLE LIFE

THE subjects who usually suffer with tobacco blindness are almost always males be-

tween the ages of 35 and 68. Exceptions to this occasionally occur and in one of my own series of examinations, made some years ago, I found a young man aged nineteen who represented a well-marked case of this trouble. He was a most inveterate smoker and chewer of tobacco.

### HOW THE INJURY SHOWS ITSELF

THERE is almost always a gradual but progressive failure of visual acuteness in both eyes. This was noticed more or less in a large number of all those I examined. Luminous objects dazzle the eyesight, and a bright light is worse for reading by than a subdued one. These patients see better in the evening than in the middle of the day. In addition to this, patients often complain of a glimmering mist which covers all objects, especially in a bright light.

Persistent contraction of both pupils is generally present, and this was a marked symptom in most of the cases examined by me. This symptom was present in many cases where the men were heavy chewers of tobacco, even where there was very little other evidence of injury.

Lastly, the examination of the eyes of those affected with tobacco blindness reveals the papilla of the optic nerve to be more than usually red in the early part of the affection. Later it appears anaemic, especially on the temporal half, and finally wasting of the disc takes place.

### NICOTINE THE CAUSE OF THE MISCHIEF

THE deleterious effects of tobacco on the system in general, or on the eyes, is due, as we all know, to the presence of a poisonous substance called nicotine. This oily, colored fluid diffuses itself into the blood with as much rapidity as prussic acid, and a poisonous dose has been known to kill an adult in three minutes. When dry tobacco is smoked the greater part of the nicotine is decomposed, and passes off with the smoke. The more moist the tobacco—and the cheap grades are usually damp—the more this is retarded. The cheaper grades of tobacco contain more nicotine than the more expensive ones, and consequently are more injurious to the consumers, and this is probably one reason that tobacco blindness is more common among poorer classes than among the rich. The tobacco used for chewing is very rich in nicotine.

(Continued on page 120)

# Scientific Temperance Journal

Founded by Mary H. Hunt

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A child's hand is on the door-latch of the millennium.

MARY H. HUNT.

July 4, 1830.

April 24, 1906.

## One By-Product of Cigaret Using

TEMPTATIONS to young people never seem to hunt singly. Aside from the physical, mental or moral effects of the habit of cigaret-using, we have to reckon with the influence of the often vulgar pictures issued with the cigarettes. Their purpose, of course, is to increase the sale of the cigaret. They appeal to the fad for "collecting" which every boy is as sure to have sooner or later as the chicken-pox, and which wisely and sympathetically guided may give him real profit as well as pleasure. But if the pictures are ever so harmless, everytime he handles the cards they bring him the suggestion of cigaret-using as many of them, at least, bear cigaret advertisements.

As to the pictures themselves, many are to say the least, vulgar. Prize-fighters and their histories are not conducive to the highest ideals of manliness. The pictures that just escape the limitations of the law have a special peril at the age when most boys begin to smoke, fourteen years and upward.

This is a difficulty that will have to be met on its own ground. If the collection mania lies behind it, there will have to be careful substitution of interests. One Bible school teacher keeps herself supplied with foreign postage stamps which she facetiously calls—though not to the boys—"boy-bait," and it catches the boys! Organizations like the Knights of King Arthur and properly managed Boy Scouts may do a vast amount of good in meeting the whole cigaret problem, the first by its emphasis on high ideals in thought, interests and action, the second, by providing outlet for natural energy in ways interesting, useful and truly manly.

## The Heroic Appeal

WHENEVER a universal law can be brought to the service of any cause results may be logically expected.

The universal tendency to imitate is a tremendous force, and it is this force, now working in the wrong direction that is directly responsible for most of the smoking among children.

If this same power could now be set in motion in the opposite direction, the trouble might be practically ended in a generation or two. Can this be done?

A prominent writer on social purity, Prof. W. S. Hall, says that he finds the heroic appeal one of the most powerful in awakening a response. Why can not this appeal be made to bear fruit in dealing with the tobacco question?

The larger boys can be shown the great injury tobacco does to the smaller boys, and that it is according to a law of nature that the small boys should try to do what they see the large boys—and the man—do. Then the heroic appeal, desistance for the sake of the small boys, may be tried with prospect of success.

Doubtless many men whose example is most directly responsible for smoking all down the line to the toddling five-year-olds, could be influenced by this appeal—if strongly pressed. It is at least worth trying. But success in this as in every other effort to stop the deteriorating effect of tobacco must be based upon clear evidence of the actual harm it does. Hence the collection of indisputable evidence is a fundamental part of the work.

If we are hoping to reform mankind, we must begin, not with adults whose habits and ideals are set, but with children who are still plastic. We must begin with children in the home, the school, the street, the playground.—Charles W. Eliot.

## The Injurious Effects of Smoking upon the Blood Vessels

By DR. S. KREUZFUCHS

**N**OTWITHSTANDING the repeated attention that has been given in the last few years to the injurious effects of smoking upon the blood vessels, the question of nicotinism has received far too little investigation.

It is, of course, a difficult matter to judge of the consequences of the misuse of tobacco because with most patients nicotine is not the only injurious factor. Nevertheless, one can assert as a result of the investigations already made, that nicotine is a special poison to the blood vessels.

The most familiar of the symptoms of chronic nicotine poisoning is *angina pectoris*, an expression of heavy smoking.

These attacks frequently appear at first as insignificant pain or as a sensation of pressure in the chest. It would be of great importance if in all cases of so-called nervous angina, inquiries were made as to the use of tobacco. In such inquiries little significance could be attached to the smoker's use of the terms "heavy," "moderate," or "light," for tolerance to nicotine varies greatly with the individual, and secondly with the opinion of the patient, and no great reliance can be placed upon the statements of the patient. I have repeatedly had occasion to notice patients who smoked one cigar after another before my eyes who only the day before had called themselves light smokers.

Another symptom not unusual in heavy smokers is a painful sensation of fatigue in the legs, especially after the use of strong cigars or smoking several cigars in succession. These symptoms which are often admitted by the patient and are ascribed very often by the physician simply to neurasthenia, are not so unimportant.

Another accompaniment of chronic nicotinism is pain in the stomach, described sometimes as boring, sometimes as burning, and needs, according to the two descriptions, our particular attention. In the first case it leads to false diagnosis. It is taken to be a stomach trouble, the gastric contents are investigated and an over- or an under-acidity is found, which apparently explains the symptom and the patient is treated for abnormal secretions, obviously without improvement, as long as he does not stop smoking. In the second case we find the cause of the pain in the sclerotic (hardening, thickening or

toughening) changes in the blood vessels, the cause of which, at least in many cases, is attributable to nicotinism.

A last but not lesser symptom of chronic nicotinism is flatulence, a very frequent accompaniment of disturbances of the circulation. It attacks smokers particularly in the night and disappears after rising.

To sum up, then, we see in nicotine poisoning a series of phenomena which at first may be denominated toxic symptoms, but which in time become fixed and give rise to organic disease.

In all the forms described the authors agree upon the presence of a contraction of the vessels as a factor producing the symptoms of the disease.

It goes without saying that in all cases of sclerotic changes in the blood vessels in which constriction of the vessels play the chief role, the patient must be strictly forbidden to use nicotine, since it would do no good to introduce all possible cures without eliminating that which in all probability is the cause of the trouble.—*Translated for the SCIENTIFIC TEMPERANCE JOURNAL.*

### Unexpected Reinforcements

**T**HE METROPOLITAN Life Insurance Company has done a notable piece of educational temperance work in devoting to the effects of alcohol one entire number of "The Metropolitan," a paper of which it issues several millions of copies for its policy-holders. It treats in a popular way practical questions of the relation of drink to industrial accidents, mental ability, longevity, public health and working ability. Among the writers are Dr. George W. Webster, president of the Illinois State Board of Health, Dr. Frederick Peterson of Columbia University, Dr. Richard C. Cabot of Boston, Rev. Richard Wright, Cambridge, and the secretaries of the Scientific Temperance Federation through whose co-operation the articles were obtained. The Federation also furnished several illustrative diagrams.

The insurance companies are doing what is perhaps a little known but certainly a most far-reaching work of education in personal and public health, including temperance, through the bulletins and papers frequently issued to their policy-holders.

"For good ye are and bad, and like to coins,  
Some true, some light, but every one of you  
Stamped with the image of the King."

## A Great Memorial to A Great Man

BY LUCY PAGE GASTON

Superintendent of the Anti-Cigaret League of America

THE FORCES of right are today largely impotent because scattered. There are enough right-thinking people to do wonders in the way of needed reform. If their efforts could only be focussed and properly directed, much that is evil would slink to cover. Badness is weak and rotten; needing only to be attacked in earnest.

A well-known reformer blames "the inactivity of the virtuous" quite as much as the "activity of the vicious" for the unfortunate conditions that prevail. A "spasm" of reform often shows what power good people have when hurled against any evil in a pronounced contest.

IN the present "reign of crime," it is youthful criminals in the main, who are placing life and property in peril. It is mere boys who plunder, who beat down and sometimes kill the defenceless. A majority are of American-born parents and have attended our public schools, but have somehow failed to become good citizens. Earnest educators are seeking a remedy for the wide-spread immorality of the youth.

The churches are facing the same problem. They find they are not holding even the children and young people of their own members.

According to statistics presented at the World's Sunday School Convention at Washington, D. C. in 1910, 75 per cent. of the boys are deserting the Sunday Schools *each year*. This is an astonishing condition for Christian workers to face.

But serious as the case now is, the tide can be turned. This can only be done, however, by a concerted movement by the churches and schools, aided by all interested in moral welfare of the youth. How this can be done is the burning question of the day.

BAD habits are the starting point in any career of recklessness, and this is the point that is not being properly safeguarded. A high enough note is not being struck for moral reform. The heroic element that slumbers in every young life must be aroused and this is not accomplished by the ordinary subjects and methods either in school or church and the young drift into temptation.

Experience is proving that pledging boys upon their honor against cigarettes and tobacco in any form at least until they are twenty-one and following this up with enlisting them in an organized effort to combat other evils, result in untold good to an entire school or community. This is a good

place to begin a fight for better moral conditions and the Anti-Cigaret League of America is leading an America-wide campaign based on this plan.

## RECRUITING FOR THE NEW GRAND ARMY

THE League is now recruiting members for its One Million Club with great success. The active membership of this club is made up of pledged boys. Girls may become associate members and all non-tobacco users and sympathizers over eighteen years are invited to become honorary members. The fee of a dime (payable annually) entitles each member to an A. C. L. button, which boys especially, are proud and happy to wear. Recruiting stations should be established in every church Parish House, Y. M. C. A., Settlement, Boy Scout Headquarters and Boy's Club where companies can be formed to attend monthly rallies and other gatherings in a body. Good speakers, readers and singers are glad to give their services when the churches of a community in turn open their doors for meetings for old and young and such occasions grow in attendance and power for good.

The whole of Greater New York is now being districited with the hope of reaching every boy in the city. Chicago is also calling upon leaders in Christian, Reform and educational work to unite on a similar plan. Each of these cities has its stakes set to enlist at least 100,000 members of the One Million Club and every other city should fall into line for a simultaneous campaign without delay. Regular meetings in each district in New York and Chicago will receive reports of the progress being made from month to month as a part of the program and the effort must result in a great moral uplift.

The One Million Club has been started as a memorial to Abraham Lincoln, a life-long abstainer from both liquor and tobacco. His name is one to conjure with in this effort to train the youth of America to habits of purity and abstinence. It is hoped that the One Million Club may in time become the Two Million Club and a tide set in that will help free America from the slavery of vice—the great need of the day.

All friends of the tempted boys should get in touch with this inspiring movement without delay. Address Anti-Cigaret League of America, General Headquarters 1119 Woman's Temple, Chicago, Ill. Eastern Headquarters, Presbyterian Bldg., 156 Fifth Ave., New York.

## Effect of Tobacco Poisoning Upon the Nerves

THE statement has been made that the effects of tobacco so far as observed, are only functional, that is, disorders of normal processes, never organic, or structural. Evidence obtained by a series of animal experiments conducted by Guillain and Gy (*Compt. rend. Soc. de biol.*, 1908), resulted in the detection of actual changes in the structure of nerve cells in animals poisoned with tobacco.

The injuries discovered consisted almost entirely of changes in the fine granular bodies of the cells which became diminished in number, cloudy and discolored; and in the appearance of "vacuoles" or places in the cells in which the characteristic network had disappeared. Such "vacuoles" are produced in the nerve cells by fatigue. Their extension over the entire cells means the disappearance or death of the cell.

Not all the cells were damaged to the same extent in the tobacco poisoned animals. Cells injured in varying degrees would be found in the midst of others entirely sound.

The authors state expressly that the different poisonous substances seem to show in tobacco poisoning a special affinity for the nerve cells. It is here that the maximum damage is found. These lesions, they say, are interesting to know, and to put parallel with the multiplicity of nervous symptoms observed so often in experimental tobacco poisoning as well as in the human subject. "With men, or at least with certain subjects, the prolonged and immoderate use of tobacco often causes disorders of the intellect, such as difficulty of attention, inability to fix or associate ideas."

Their findings apparently show the physiological basis for these symptoms.—*Translated for SCIENTIFIC TEMPERANCE JOURNAL.*

### Why Ex-Governor Hughes' Father Stopped Smoking

THE father of Ex-Governor Hughes, of New York, was a Baptist minister. When a young man in college, and even after entering the ministry, he smoked considerably, but finally decided that for a preacher to smoke was not proper. After numerous attempts to limit his indulgence he concluded that the only way was to give it up entirely. How he came to this decision is told in his own words, quoted in the New York *Christian Advocate*:

I began to smoke when I was sixteen or seventeen, and during my college life I indulged much. We had our college prayer-meetings at six o'clock in those days. Before each meeting and before I went to my classes I had to have my smoke.

After my ordination into the ministry I thought that it was incongruous for a minister to set the example of smoking to the young men of his congregation. I gave it up again and again, but I always returned to it, because I had tried to give it up of my own strength.

Finally I had promised my congregation I would give up smoking except with my friends. Some time after this my father-in law came to visit us, and I was very glad indeed, because I could sit down and smoke three times a day with him. One day I went up stairs, expecting my father-in-law, who was down stairs, to follow me shortly. I filled my pipe, and began to smoke, but my father-in-law did not come.

I smoked on and on, expecting him, but feeling rather uneasy about smoking while he was down stairs. I sat down with the open Bible near me. While I was filling my pipe mechanically, my eye came upon a verse in the Bible. It was: "Whatsoever ye do, whether ye eat or drink, do all for the glory of God."

It came like a voice from heaven to me. I put my pipe back into the box and knelt down in prayer. I said, "I don't smoke for the glory of God." I had never realized that smoking was a sin. I know that it is a sin now. I vowed I would never touch tobacco again until I could do it for the glory of God. I have never had the slightest desire for tobacco from that day to this.

(Concluded from page 116)

The outlook for the cure of patients suffering with dullness of vision due to tobacco is good if the patient comes under treatment early; in some cases complete recovery occurs and very great improvement is the rule. In long standing cases moderate improvement is all he can expect. If smoking is persisted in no improvement takes place under any system of treatment.

### DO YOU REALLY WANT TO GIVE IT UP?

A lady who had been doing temperance work among Freedmen, told of one colored woman, a member of the church, but addicted to drink, who had finally given up the habit. She had struggled and prayed, and God had helped her, she said. Then she honestly added, "But I aint give up my terbacca yit. Yaas'm, 'course I knows He'd help me dar, too, but you see I aint rightly felt like axin Him bout dat."—*Forward.*

# Class-Room Helps

Conducted by Edith M. Wills

## Spoiling the Great Investment

### The Unfruitful Vineyard

ONCE upon a time in far-off Palestine there lived a fine lad named David. All through his boyhood as he looked about him he saw the beautiful and profitable vineyards, he longed for the time when he should become a man and have a vineyard of his own. How luscious would be the grapes for food; how refreshing their juice when pressed out and drunk fresh from the vines, and when he sold the grapes how prosperous he would be. He could help little lame Esther, feed poor old Abraham, and shelter the little children of his dead kinsman.

And now the time was come. His father took him outside the city, pointed out a fine large tract of land, and gave it to him. It was to belong to him and to his children forever.

The soil was fine, but there were many stones; it was grown up to wild vines and brambles; there was no hedge about it to keep the wild animals from destroying the vines, nor any watch-tower from which to discover enemies and drive them away.

But David was young and strong and he rejoiced in his land and his heart beat fast as he thought of the splendid vineyard he was to have by-and-by.

He lost no time in beginning to make his dream come true. Early and late he toiled under the hot sun. He cleared off the stones and the brambles, and he set fine, strong grapevines and carefully trimmed them so they might yield heavily. And he fenced it all about and built a watchtower so that the wild beasts and other enemies should be kept out. He did everything possible, and at last, after spending so much time and hard labor, he felt that he had a right to expect a rich harvest.

But, alas, when he went to gather the vintage he found that in spite of all he had spent upon the vineyard, the good vines had been choked out by "wild grapes," that is, by weeds and vines. Instead of the grapes, luscious and valuable, there were poisonous berries.

No grapes for food, no money to help others, no hope of a good vineyard, for already all had been done that could be done. And so, sorrowfully, he abandoned it. The

hedges were broken, the watch-tower fell down, and the wild beasts ravaged it at will. (See Isaiah V: 1-10 for the essentials of the story.)

### The True Story of Paul

ONCE upon a time in a fine American town, there lived a young man and his wife. They had a beautiful home and many things to make them happy. Only one thing they lacked. They longed and prayed for a little boy to love and train.

At last their prayer was answered: the father held in his arms a dear little son. He was named Paul. They were almost too happy to speak. Often they hung over the baby's cradle and talked of the care they would give him, how happy he would make them and of how good and helpful to others he would be when he became a man.

I can't begin to tell you how much they loved the little boy. They were always trying to make him happy. His father worked, oh, so hard, to earn the extra money for his food, clothes, books, and toys, the mother to give him the right kind of food, to care for his clothes, and to keep him well. They took great care to teach him to be truthful and unselfish, and to give him the right kind of playmates.

It was as though they were always in a watch-tower watching to see that no enemies got in to steal his health or happiness or goodness.

Once he was dreadfully sick. For a long time the doctor came every day and they feared they would lose their little boy. Day after day and through many long nights they watched over him, scarcely taking time to eat or sleep until at last he got well again.

But they didn't mind all the money they spent or how hard they worked to take good care of him because they loved him and looked forward to the good man they expected he would be.

He was a bright, loving little fellow, and studied well so he got along nicely at school. Almost before his father and mother knew it, it was time for him to go away to college. They feared to have him go away, but as they had done everything they could and had

taught him the best they knew, they let him go. They had a right to expect that he would pay them back by doing right and making a good man of himself.

For a time he did finely in college. Then some of the college boys laughed at him and got him to using cigarettes although he knew he ought not. He thought the smoking did not hurt him any because for some time he could not *see* it himself. When he got through college and went to work hard, he smoked more and more, and then he began to drink and do other wrong things. His father and mother grieved so that he stopped some of his wicked ways, but try as hard as he could, he could not stop smoking. He knew it was making a slave of him, but he couldn't seem to help himself. Then the smoking began to make him very sick. His body was broken down by all this and the wrong things he had done so he could not get well, and after some time he died.

The splendid man his parents had hoped for was spoiled. Their boy was lost. After all they had done to help him be a good useful man he had spoiled himself and left them in sorrow alone. They could never be happy again for there is no sorrow in the world so great as that which parents feel when they see their children spoiled and lost.

#### LESSON SUGGESTIONS

**Purpose of the Lesson.** To impress children with the thoughts of (1) how much they have cost in money and labor and love; (2) that this expenditure by parents and teachers is not for themselves, but for the sake of the fine men and women these children are to be, and of their helpfulness to others; (3) that in view of all this expenditure parents have a right to expect "good fruit"; and (4) that it isn't "square" for a child to spoil with cigarettes or alcoholic drinks or any kind of wrong doing, the man or woman which it has cost the parents so much to make possible. Even if a wicked child seems to deserve the punishment it falls even more heavily on those that love him.

**Lesson Suggestions for Younger Children.** Tell the story of the vineyard very simply but graphically. Bring out the points clearly: the expectation of the owner; his long hard toil; his disappointment at not getting a harvest as he rightly should; the fact that unfruitfulness deprives others of good; the desolation of the unfruitful. Get the children to see that when after everything possible has been done to make the vineyard fruitful and then it yielded no harvest, it deserved the destruction that came to it.

Then tell the story of Paul (which in the main actually happened), bringing out the points given in the "Purpose of the Lesson." If it is desired to use this for an anti-alcohol instead of an anti-cigarette lesson tell a similar story of some boy who fell, through moderate drinking. Unfortunately such cases are so common that teachers know of several from which the one best adapted can be selected.

Apply it to the children themselves, leading them to see that all the first part is practically the story of their own lives. What do their parents do for them? Have they been cared for in sickness, etc.? Why do parents make such sacrifices for them? What do their parents have a right to expect from them? How do your mothers feel when you do wrong? Lead the children to see that when they do wrong or do not do all they can at school and elsewhere others always suffer. Paul might have said that if his smoking hurt him he would be the only one to suffer. But was it true?

In speaking of "Paul" tell the children that it is true that his is an extreme case. Smoking doesn't very often lead to so much harm. But if it happens that once in a while "cigarettes did it" in a case like this, and he was a man grown, not a boy, we can see that it is dangerous. None can tell beforehand whether he might not suffer so too. He wanted to stop but could not.

From the data given (pp. 114, etc.) show that the boy who begins to smoke suffers almost immediately physically, mentally, morally and, a little later, economically, and that the damage done in these precious growing years can never be fully repaired. Show how growth depends upon the proper action of the lungs, blood vessels, nervous system and nutrition, and how tobacco, by interfering with such action, makes healthy development impossible.

#### POINTERS FOR USE IN OLDER CLASSES.

(Temperance S. S. Lesson, May 21, 1911.

Isa. V: 1-10.)

**My well beloved.** What does it cost in time, strength, money, love and anxiety to rear a boy? Note, also, that all the sacrifices of our patriots have been largely for him, "posterity." The vineyard well represents the boy as well as that collection of individuals we call a nation.

**Fruitful hill:** good natural endowment.

**Made a wine press:** trained the child so that his ability might serve himself and others.

**Fenced in, and built a tower:** the protection of good environment and exclusion of enemies to character.

**Brought forth wild grapes:** poisonous berries; "wild oats."

**What could I have done more?** Parents, teachers and friends can do much to help, but the time very soon comes when the child must decide and act for himself partly or entirely. Each is really "self-made."

**I will take away the hedge from the vineyard and it shall be eaten up, etc.** God works through natural laws. It is not that He desires to leave one defenceless but the action of the law makes it certain that the defences will be destroyed. When a boy begins to smoke or to drink he himself breaks down the protection of good training and environment which his friends have built about him.

**It shall not be pruned or digged but there shall come up briars and thorns.** Forest land if entirely cleared up is soon overgrown with underbrush, the well cultivated garden with weeds. No cultivation means briars and thorns; thistles cover the untilled ground.

The use of cigarettes, tobacco or liquors dulls the mental and moral powers. (See statement by Probation Officer Copp and others). Boys or girls may thus put themselves where cultivation of gifts cannot help them, or at least only in a moderate degree.

**He looked for judgment, for righteousness, but found none.** What can be expected from degenerated bodies, minds and hearts?

**Of a truth many houses shall be desolate.** How many thousands of boys and girls are ruined by narcotics. No desolation in any home begins to equal that from children spoiled, disgraced, lost, and no power can undo the wrong. Reformation may prevent new misery but cannot obliterate the old.

**Ten acres of vineyard shall yield one bath.** i. e. seven and one-half gallons of wine. Seed of a homer about 11.1 bushels, shall yield an ephah, about 1.4 bushels. Instead of receiving 40-, 60-, or 100-fold as nature provides, the yield is far less than the planting.

#### FOR SENIOR CLASSES.

In the place of the names of Israel read "America." Review briefly the history of (1) the founding of the nation by selected men and women and the ways in which we may well believe that Providence has intervened in favor of America; (2) the "Oppression" found in the place of "judgment"; (3) discuss the ways in which the cigarette manufacturers, and the liquor traffic (each) "has joined house to house" till in many parts there is indeed "no place" and "houses are desolate"; and (4) the duty of patriot and Christian (a) to better local conditions; (b) to help save the nation and (c), the best means to effect such betterment.

As a preliminary to this lesson read "The Thin Crust of Civilization," by Ray Stannard Baker, (April American) and Richard Pearson Hobson's congressional speech, "The Great Destroyer," copies of which can be obtained free upon application to Congressman Hobson.

## What Can We Teach the Girls?

**D**OUBTLESS there are many conscientious teachers who, like one recently met, are willing to teach temperance truths to their girls, but who feel that there is little to teach of special interest to them and that they do not need the warning against drink as nearly all boys do. But this is a great mistake.

Girls need to be taught the truth (a) so that they may always and intelligently throw their influence on the right side; (b) because they are to be teachers and mothers, hold the welfare of the race in their hands; and (c) because alcoholic drinks do constitute a grave menace to them as well as to boys, for

(1) Social temptations may abound; (2) some may be peculiarly susceptible to the effects of alcohol through heredity or impaired nervous or physical condition and the use of a comparatively small amount may result in inebriety; and (3) a single indulgence in wine may result in the girl's downfall, for it is a well-known fact that girls are frequently drugged in this manner, and even if no drugs are present in the drink excepting the alcohol, it in itself is often capable of serving the purpose of ruin. Girls should be warned very particularly against drinking with strangers, men or women, under any circumstances whatever.

In presenting the temperance lesson to girls (and there is much which is equally helpful in teaching boys) the excellent and authoritative article by Dr. Henry Smith Williams in the *Ladies' Home Journal* (p. 8, issue April 1, 1911) will be found most helpful. As the magazine is available almost everywhere, we furnish only the outline which may be used in connection with it. The girls should be directed to read the article carefully, and be ready to discuss it in class. If each makes an outline or abstract of it, the lesson will make a much deeper impression. Not only should the warnings be clear cut and definite, but the lesson of the personal responsibility of each should be earnestly pressed home.

## The Price a Woman Pays for Alcohol

### I. ALCOHOL TENDS TO MAR BEAUTY.

1. The *skin* is likely (a) to become thickened, and blotches and pimples appear, or (b) to become dull, leaden, or bloated in appearance.

2. The *vital organs* as stomach, liver, kid-



## How He Lost His Golden Opportunity

**H**ERE is a true story of how a young Stocktonian, a college graduate, lost life's golden opportunity, a story with a strong lesson for all young men, and for parents as well.

In a prominent Stockton family is a young man graduated from one of California's leading universities. That young man wanted a position. He desired to take up railroading and to enter the clerical department of one of the large companies. His parents were intimately acquainted with an ex-Congressman, formerly of Stockton, but now a resident elsewhere. Thinking that the former Congressman's influence might be of some avail in securing a situation for their son, on a recent visit of the former legislator to Stockton they broached the matter to him.

The ex-Congressman at once promised to use his influence and stated to the parents that

neys, are apt to be impaired in function and structure.

3. The *impaired circulation and impoverished blood* lower resistance to diseases, as erysipelas, pneumonia, consumption, etc.

4. The *nervous system* almost invariably suffers which often results in loss of "charm," nervous exhaustion, bad temper, hysteria, untruthfulness, impaired self-control, or even insanity.

### II. ALCOHOL SERIOUSLY ENDANGERS CHARACTER.

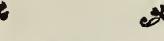
1. General effects on nervous system (see p. 81) are to coarsen personality and greatly impair judgment and self-control.

2. The drug effect of alcohol even when used in small quantities increases susceptibility to temptation while at the same time it decreases modesty and self-control.

### III. ALCOHOL MENACES THE WELFARE OF THE CHILDREN.

1. The offspring of drinking mothers are apt to show impaired vitality which may be manifested in non-viability, nervous diseases including chorea, convulsions, epilepsy, or idiocy, etc.

2. The use of alcohol by nursing mothers injuriously affects their infants because (a) the milk becomes unsuited to build up healthy bodies; and (b) the poison appears in the milk causing the infants to be restless or irritable, or, quite possibly, to have convulsions. Many of such children afterwards become drunkards.



## Golden Opportunity

he felt quite certain of being able to secure a position for the young man. The gentleman then visited San Francisco, and going to the office of a high official of the Southern Pacific Company, with whom he was well acquainted, told the railroad man that he would like to secure a good position for a young man with whose family he was quite intimate.

The young man is a university graduate and a bright young fellow, was the way the ex-Congressman recommended the young Stocktonian.

Why, certainly, replied the railroad official. The Southern Pacific Company always has room for bright, capable young men. Send him to me.

The ex-Congressman returned to Stockton and assured the parents that he had secured a position for their son. He told them to send the young man down to see the high railroad

official, and that the latter would put him to work. The ex-Congressman then went to his home. About a month later he visited Stockton and called on the family to see how the young man was getting along. He found the family surrounded by gloom.

"We thought you said it was all fixed," they said. "But our boy went down to see Mr. B. and he hasn't gone to work yet."

"Then something must be wrong. I'll see about it."

Deeply chagrined and highly exercised, the former legislator hastened to San Francisco to see the railroad man.

"Why didn't you give that young man a position?" demanded he of the railroad man. "I told his parents that you would put him to work, and now you've thrown me down."

"It is true," replied the Southern Pacific official, "that the young man of whom you speak called to see me. When he came I was busy and he had to sit in the ante-room for five minutes. But the time was too long for him. He couldn't wait there five minutes without pulling out a sack of tobacco and rolling a cigaret. The Southern Pacific needs bright and ambitious young men, but it has no room for boys who vaporize their brains with tobacco or blow smoke through their nostrils."—*The Home Alliance*.

#### LESSON SUGGESTIONS

Use the above story as a point of contact. If each boy is directed to interrogate some business man as to his practice in regard to hiring cigaret smokers and the reasons therefor, and the results of the investigation are discussed in class, the boys will see that it is a typical case. Lead the boys to see that employers need employees who are neat; polite; mentally quick, accurate, and able to concentrate; ambitious, strong, vital and enduring, i. e., who are thoroughly trustworthy. Draw from experience and from the matter elsewhere in this *Journal* to show specifically how cigarettes tend to impair all these necessary qualifications. Be fair and dispassionate. Convince the boys' reason. "Don't preach but teach."



#### Helps in Curing the Tobacco Habit

**A**S a temporary aid to one in breaking up the habit Dr. O. Clayton Jones says (London *Lancet*) there is nothing better than peppermint drops. A boy cannot smoke with one in his mouth and for an hour after it is dissolved tobacco will not blend kindly with the taste that remains.

"It is seldom" says another English writer, "that a man discovers his bondage to the filthy habit until he seeks to abandon it. Then he finds too often that he has parted with his will-power as a part of the price of his indulgence."

"A cure calls for entire abstinence from tobacco, clean and wholesome living, with an abundance of pure air. Vapor baths and sim-

ilar eliminative treatments will help to cleanse the system, which must be braced by gentle tonics. [Lupulin tablets (2 grain) will help the nervous symptoms.] A complete restoration to health may require some length of time. This will depend upon the extent to which the health has suffered. But a determination to be free from the influence of tobacco backed by a faithful resort to all possible physical, mental, and moral aids to purity, will in most cases soon accomplish a blessed deliverance from the effects of the unclean vice."

A more complete scheme of treatment may be found in an article by Dr. T. D. Crothers in the *JOURNAL* (p. 134, May, 1910).



#### The Teacher's Responsibility

**A** YOUNG man on failing to secure a re-election as principal of the high school remarked: "I can't understand why it is a crime for me to smoke when every member of the Board of Education smokes and no one says a word about it."....

The teacher who loves children and who realizes the power for good or for harm placed in his hands by the office of teacher, has no difficulty in understanding why the community demands more of him morally than of other people. One who cannot understand the reasonableness of this discrimination ought never to be licensed as a teacher.

In schools where two per cent. of the boys drop out of school as a result of cigaret smoking under a superintendent who does not smoke, five per cent. drop out for the same reason under his successor who smokes.

To be responsible for a habit that takes just one boy out of school and places him in the alley is bad enough. Some time no one will be permitted to teach in the public schools or in the normal schools or colleges who indulges in smoking or in the moderate use of liquor. The sentiment is such at the present time that eminent educators fail to get the enjoyment out of these practices that is afforded to those engaged in other lines of work.—*Nebraska Teacher*.



#### Hardly Blood Relations

"WHAT were you and Mr. Smith talking about in the parlor?" demanded Miss Blushe's mother.

"Oh, we were discussing our kith and kin," replied the young lady.

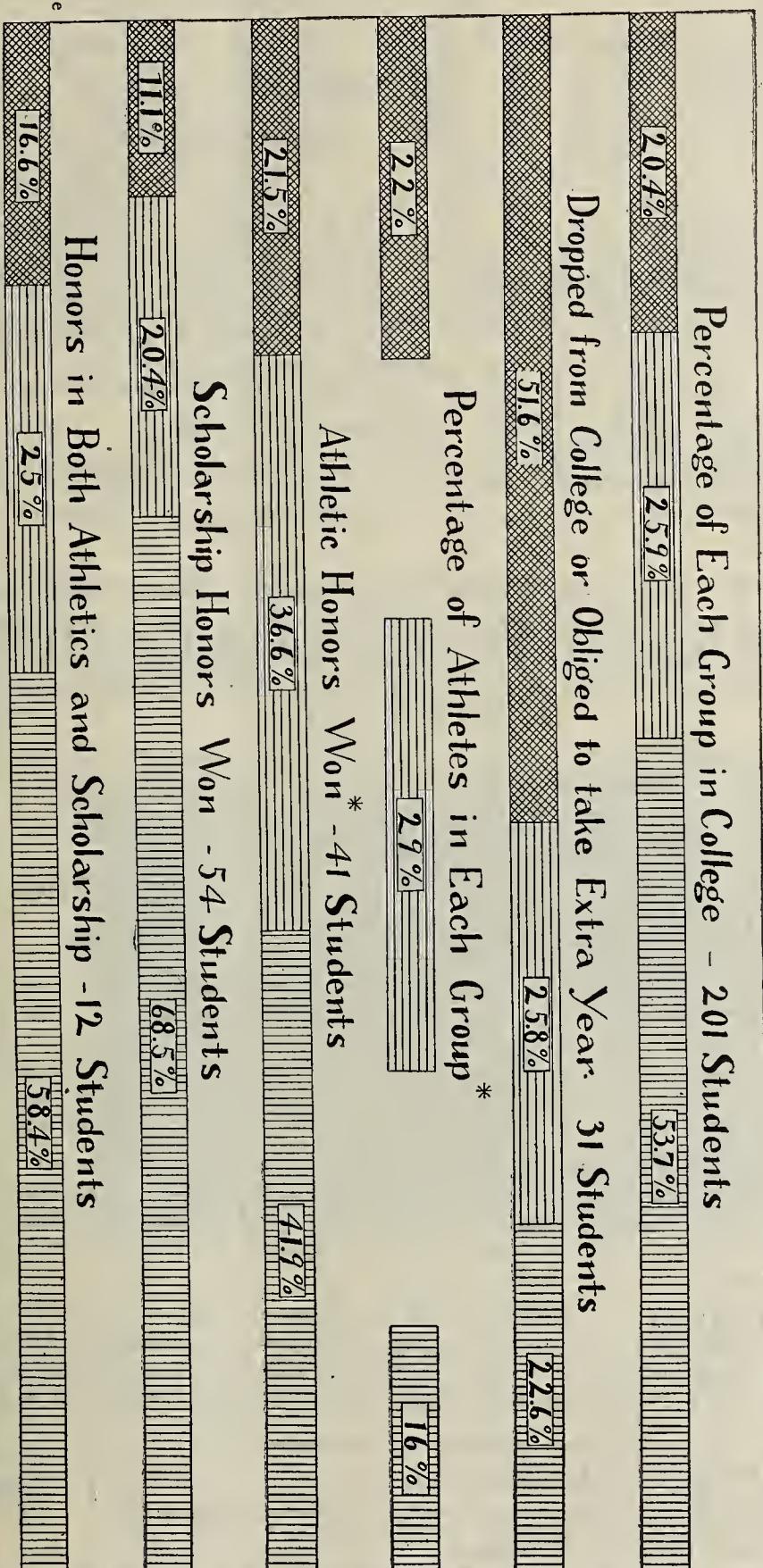
"Yeth, you wath," interposed her little sister. Mr. Thmith asked you for a kith and you thaid 'You kin.'"—*Boston Traveler*.

# Smoking as a Handicap

From a study by EDWIN C. CLARKE, of the Students in Clark College, Worcester, Mass., 1906-1909.

Diagonal lines represent *Habitual Smokers* (41).      Horizontal lines represent *Occasional Smokers* (52).

Vertical lines represent *Non-smokers* (108).



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\*Only one sixth (16 per cent.) of the non-smokers were athletes but they won nearly one-half (49.1 per cent.) of the athletic honors.

"As a rule, the non-smoker is mentally superior to both the occasional and the habitual smoker."—Clarke.

Lower scholarship in smokers is not only the result of smoking itself, but is bound up with athletics and club life. "Smokers, athletes and fraternity men have lower scholarship records than other students."—Dr. Meylan, Columbia Univ.

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# SCIENTIFIC TEMPERANCE JOURNAL

— *Continuing the* —  
SCHOOL PHYSIOLOGY JOURNAL



## In Memoriam

OUR fathers and brothers died for our country ; it is our duty to live for it. We must pay a price as they paid a price. The price which we must pay for liberty is a pure manhood and an eternal vigilance. The monument which I would place by the graves of our noble dead would be, not a cold marble statue, but an honorable, wide-awake, honest, intelligent, moral, God-fearing American citizen.

—David Gregg, D. D.

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# Scientific Temperance Journal

Vol. XX

BOSTON, MAY, 1911

No. 9

## Wanted — Soldiers of Peace

IT is one thing to be against wrong; it is quite another to fight wrong. One is a non-combatant that never won a cause; the other a soldier in the fight. Good citizens need to become more aggressive. The man that is afraid to show his colors and stand in the open against evils is of little benefit to good government. The country needs soldiers of peace as well as soldiers of war.—*Ex-Governor Folk.*



## Abstinence as a Condition to a Higher State of Civilization\*

BY PROF. BRETISLAV FOUSTKA, M. D.,  
Instructor in Sociology, University of Prague

I LOOK upon the abstinence idea as a component part of the whole conception of life and the world, a new conception of modern men, and at the same time a factor which is beginning to definitely influence our present day civilization. ....

Since I know that alcoholism lowers the vitality and the physical and mental efficiency of the individual and of society, while abstinence, on the contrary, assures a higher ethical and economic level of a people, I am an abstainer, and this conviction carries its influence into my whole conduct of life.

The abstinence idea, and abstinence practice is an expression of a need, of a desire, felt by men of the present time for a physical, mental and moral revival, a renaissance, a new birth. .... Such a new civilization must of necessity be an abstaining civilization, for alcoholism is a degenerating factor and abstinence a vitalizing one. Only a sober and pure people will be strong and enduring in the competitive struggle of the races.

### BETTER AND PURER SENSIBILITIES

CULTIVATION of the sensibilities is a matter of great importance in man's development. But alcoholism lowers and distorts the feelings, promotes coarseness, baseness and perversity and by unchaining the lower instincts checks the development of the higher, nobler and purer feelings. ....

### THE VALUE OF ABSTINENCE TO THE ARTIST

EVEN in artistic circles the opinion is gaining ground that all great works are accomplished, not by the help of alcohol, but in spite of it. A real artist who has a new message for the world will be careful not to weaken his creative powers by alcohol, and especially will he guard against allowing his truthful imagination to sink into mere fantasy.

\*From a pamphlet bearing this title (1908.)

Abstinence enables him to bring new impulses, new perspectives to bear upon his work, to originate new conceptions. He looks upon the world with very different eyes from the artist who is a friend to alcohol.

General abstinence will establish a more congenial understanding between the artist who creates and the public that enjoys. A good deal is said about carrying aesthetics into every day life; but how much of the love of beauty can be found in the stupid, smoke-saturated tippler? ....

### A CIVILIZATION OF PURER AFFECTION

WHOEVER follows the ethical tendencies of the present time will not deny one thing: the striving after greater moral purity. Men of today feel the need of a new, higher, purer morality. Tolstoi, Björnson, Talcott, Williams, Charles Fére, Heim, a whole host of noble men and women in all countries are united in this demand. ....

The question here is practically one of a better and purer relation between men and women. Men do not wish to be ascetics, but they desire nobler, purer love. And when one considers how alcohol degrades true love, how it opens the door to prostitution, how a couple of glasses of wine or beer in the hands of an experienced roué become a recognized means of seduction, then one understands how freedom from alcohol will promote this tendency towards higher and purer love.

### THE SOCIAL CONSCIENCE WILL LEAD TO ABSTINENCE

ANOTHER characteristic of modern man is that his social conscience is awakening. One sees this in the growing care of the oppressed and suffering taken by society, such as measures for the amelioration of the conditions of labor, and the care of destitute children. But what will this care of the children amount to

if parents, teachers, and society in general set before children and youth the example of drinking and do nothing to protect them from alcohol.

I venture to assert that this awakening of the social conscience will of necessity lead to abstinence, at least among those who do not repudiate their share of responsibility for the evils that alcohol causes. It was on this ground that Kipling became an abstainer.

#### ABSTINENCE WILL IMPROVE POLITICAL LIFE

STATE-CRAFT in every nation will gain much from conscientious abstinence. We are already in possession of positive data showing how the sobriety of a people influences for good the political life of a nation. It is very instructive to read some of the new reports of this matter, such as that of Stephan Grossmann, who emphasizes the fact that the removal of alcohol from conventions in Sweden and Norway and the strong abstinence movement in those countries has greatly elevated their political life, made it more refined, more positive and less subject to the rule of the demagogue.

It is a significant fact that in the highly awakened countries political activity seeks to unite with the abstinent movement. The entirely bloodless revolution through which Norway and Sweden dissolved their union was a remarkable occurrence. In this political action the workmen of Norway took an influential part, and their organization adopted as its watchword during that revolution, from October 30 to November 7, "No man is to use a drop of spirituous drink."

In Finland the great progressive movement by which the women were given equal political qualification was carried directly by an energetic abstinence movement.

#### NATIONAL ECONOMICS IMPROVED BY ABSTINENCE

AN improved economic condition is also to be realized through abstinence. I do not mean the direct saving which would result

from a smaller expenditure for alcohol.... nor avoidance of the colossal indirect loss from alcohol caused by poverty and crime, but a higher economic development which is the product of greater physical, intellectual and moral activity, a phase of economy that is in no small degree a moral question. In modern economics we do not reckon simply from one day to another, we take a wide outlook. .... It is not a question of the great profits of a few capitalists but of the economic strengthening of the masses.

I may cite Finland again as an example. We see here a small people who in spite of the barrenness of their land have developed their industrial system, dairying particularly, so thoroughly and widely that in efficiency they have surpassed the Germans. And this small people devotes annually to the cause of abstinence a million and a half Finnish marks [\$300,000]. The democratization of the people by means of abstinence—that is the point.

#### ETHICS IN MECHANICS

A NEW factor to be reckoned with in mechanics is its connection with ethics. In no other branch of activity is there so much responsibility toward the general public. Take, for example, bridge-building, coal-mining, railroading. The railroad-bridge wreck in the court of Polytechnic in Zurich, is a visual demonstration of the connection between ethics and mechanics.

In mechanical works the constant cry is "Look out!" "Look out!", but an alcoholic can not "look out". .... The greater the social importance of any mechanical work, the greater the need of abstinence.

In all the ramifications of thought, feeling and living, abstinence can show positive results; it is not a negative quantity. Abstinence offers the broadest possible road for progress.

I close with the declaration that one of the most important movements in the life and civilization of all nations is the struggle for the sobriety of the people.

### The Prevention of Insanity\*

BY HOMER FOLKS

Secretary of the State Charities Aid Association of New York.

IT WILL doubtless surprise most persons to know that the insane now in hospitals in the United States number at least 200,000, a number which if gathered together in one place would make a city like Denver, and the total annual cost of caring for them is about \$50,000,000.

The writer accustomed to visiting public

institutions of all kinds for two decades, casually remarked to the medical superintendent of a large hospital for the insane which he was inspecting some two years ago, looking about at hundreds of patients, "I suppose you are as far as ever from knowing what brings all these people here."

\*Abridged from *Review of Reviews* for May.

"Not at all," said the superintendent, "we know perfectly well what brings many of them here. As to others, we can make a good guess, and as to still others, we know but little." He then detailed something of the extent and limitations of our present knowledge of the causes of insanity. Other physicians experienced in the care of mental disease, were questioned and a surprising agreement was found as to the direct, specific, unmistakable causes of certain forms of insanity.

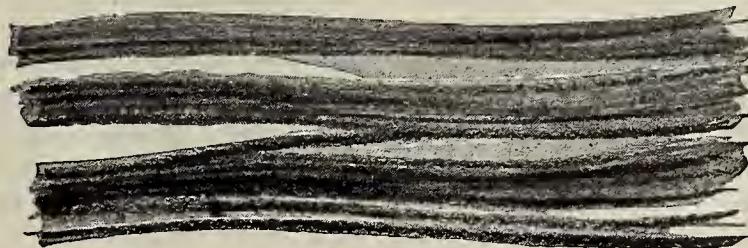
What, then, are some of these causes of insanity?

#### THE REAL CAUSE OF PARESIS

ONE of the most dreadful of all the forms of insanity is that which is popularly known as "softening of the brain" and is known scientifically as paresis, or general paralysis.

undefined and uncertain. They are due directly and exclusively to the use of alcohol. Its discontinuance may be followed by recovery; its continued use means to these patients insanity and early death. Here again the proportion of men admitted to hospitals for the insane suffering from the alcoholic insanities is greater than the proportion of women, being, roughly speaking, 20 per cent. of the men admitted and 10 per cent. of the women.

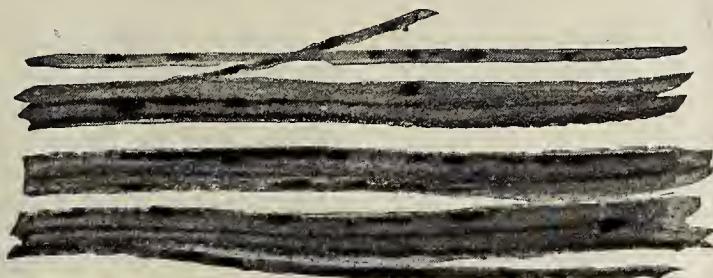
The State Charities Aid Association and the other organizations engaged in the prevention of insanity are not temperance societies; they were not formed in the first instance by people who were particularly interested in the temperance question; or if so interested, that interest found expression in other directions. The time has come, however, when every per-



NORMAL NERVE FIBERS\*

This particular form of insanity is absolutely incurable by any means now known to the medical profession. Those afflicted with it suffer gradual but complete mental and physical decay. The very substance of the brain

son desirous of promoting the health and happiness of his fellowmen and preventing disease, and especially the great scourges of tuberculosis and insanity, must join hands in furthering whatever methods stand the test



NERVE FIBRES AFFECTED BY ALCOHOL\*

and its appearance become changed. These unfortunates lives but a few years. This disease is, in substantially every case, caused by an earlier disease, syphilis.

#### THE RELATION OF ALCOHOL TO INSANITY

AMONG the various types of insanity, of which at least a dozen might be enumerated, three are so directly traceable to a particular cause that, though differing in important aspects, they are known collectively as the *alcoholic* insanities. No hospital physician questions the direct relation of cause and effect between alcohol and these three types of insanity. There are other forms of insanity to which the use of alcohol is believed by many to be a contributing cause to an extent as yet

of practicability for the purpose of stopping the exploitation of the weakness of human beings for profit. Let us recognize, once for all, that liquors are not made to be drunk, but to be sold; that the most difficult factor in the problem of intemperance is not the man who wants to drink, but the man who wants to sell drinks.

#### PRACTICAL PREVENTIVE WORK

THESE [and others omitted] being the causes of insanity, what can be done about them? How far can this knowledge find actual application? If preventable, how far can insanity be prevented? There is a striking similarity in general outline between the movement for the prevention of tuberculosis

\*Cuts from *Control of Mind and Body*, Gulick Hygiene Series, courtesy of Ginn and Co., Boston.

and that for the prevention of insanity. Probably this will also hold true of future movements for the prevention of other diseases. Two distinct lines are indicated from the outset. One the general education of the public as to the nature, cause, and modes of prevention of the disease, and the other its earlier detection and treatment. The one proceeds upon the perfectly safe assumption that if people generally understand the facts they will, to a considerable degree, adjust their lives accordingly. People prefer health to sickness, sanity to insanity, freedom to incarceration. If men and boys know that consorting with prostitutes is very likely to mean syphilis, and that syphilis may mean paresis [softening of the brain], and early death, there will be less consorting with prostitutes. If people generally know that the habitual and immoderate use of alcohol leads hundreds of men and women to the doors of the hospitals of the insane, there will be fewer instances of the habitual and the immoderate use of alcohol. Man is a reasoning animal. He does not burn his finger twice in the same fire. He is not wholly rational, but he tends to be rational, and it is always worth while to inform him.

On this safe and sure basis the State Char-

ities Aid Association, has outlined and is carrying into effect, a movement for popular education along scientific lines and by sound psychological methods, as to the causes and prevention of insanity.

#### KEEP THE DEVILS OUT

No other fact in modern social life is so hopeful as these various movements for the prevention of diseases. Insanity has filled great hospitals, until teeming populations are thus set apart. We have suffered all these things to be done because the lines of responsibility were not clearly defined—because the facts were not clear beyond all possibility of doubt. This comfortable margin of uncertainty affords us refuge no longer. Science points at us its finger and says, "Thou art the man. Thou art thy brother's keeper." We now know not only that we are our brother's keepers, but we know how to keep him; how to conserve his life forces. We know how to build up a strong, vigorous race fit to live; fit to build up a great nation; fit for deeds of constructive life; fit to promote the education, uplifting, strengthening of the masses, not simply of the few. ....

The devils are not to be cast out, they are to be kept from getting in.

### A Danger at the Soda Fountains

WITH the coming summer the soda fountain with its variety of "soft" drinks and delicacies, offers many attractions to young and old.

Quite aside from the questionable use of alcoholic drinks in the flavoring of wine sauces, frozen pudding, etc., served by many of the ice-cream-soda-fountain-combinations, another peril has grown up unperceived for the most part which threatens even more formidable dangers—the increasing use of drinks containing caffeine and especially cocaine.

Many dealers serve various bromides also which cannot be considered harmless and their use on lay administration should certainly be discouraged.

The growth of the cocaine habit, the multiplication of the drinks containing these dangerous drugs require that no time be lost in warning the public and especially young people of the dangers. The JOURNAL, therefore, brings together data concerning the drinks themselves, the pathological effect of cocaine and caffeine, and the consequences of the easily-formed cocaine habit. Some of the drinks described by Dr. Kebler "contained both caffeine and extract of coca leaf. ...."

Others contained caffeine but there was no evidence that coca leaf in any form had been used in their manufacture. A list of these drinks will be found in Dr. Kebler's article in the report (1909) of the Homes Commission appointed by President Roosevelt.

### Soft Drinks Containing Poisons

BY LYMAN F. KEBLER, M. D., PH. D.

Chief Division of Drugs, U. S. Dept. of Agriculture.

DURING the past decade soda-fountain specialties containing caffeine, extract of Kola nut and extract of coca leaf, the active principle of which is cocaine, have been offered in considerable quantities and, due to extensive and attractive advertising, both as beverages and as headache remedies and nerve tonics, their sale has reached large proportions.

The first appearance of preparations of this type was in the South in the eighties, their introduction following the success which Moxie had attained in the East, though this particular drink was of entirely different character. From the South the demand spread to other

sections and the number of products has increased until at the present time there are probably over one hundred of them bottled and sold all over the United States. The greatest demand is still in the South, however, and almost every drug store, confectionery shop and fruit stand has its favorite product on sale. The carbonated goods in bottled form are offered on the trains. People of all classes, young and old, delicate women and even little children consume these beverages indiscriminately and no warning is ever given of the baneful effect of the powerful habit-forming drugs concealed therein. It is therefore small wonder that the prevalence of the so-called "coca-cola fiend" is becoming a matter of great importance and concern.

It is well known that some of these products are mixed under the most unsanitary conditions. The sugar, water, and drug material will be dumped into a pot standing in the cellar of some low building, or even a stable, where the ceiling is covered with dust, cobwebs, and dirt of all descriptions and the floor littered with filth. The steam from boiling

kettle, condensing on the ceiling, collects the dirt in the drops of water and this falls back into the mixture. Again the sirup boils over on the floor and a sticky mass remains which soon collects straw and filth of all descriptions and becomes a rendezvous for flies and other vermin, for usually no attempt is made to clean up.

Judging from the names of most of these products it would appear that extract of Kola nut is one of the chief ingredients, and while in certain instances the drug is undoubtedly present, in most cases the caffeine has been added as the alkaloid caffeine obtained from refuse tea sweepings or made artificially from uric acid occurring in the guano deposits of South America, or in the citrated form and the sirup colored with caramel. The cocaine found is usually added in the form of extract of coca leaf. Some of the manufacturers claim that the extract used is prepared from a decocainized coca leaf, the refuse product discarded in the manufacture of cocaine.—President Roosevelt's *Homes Commission Report*, (1909).

## The Cocaine Habit

By CLEVELAND MOFFETT

DURING a recent visit to Washington I talked with two heads of departments in the bureau of chemistry, both active in the government prosecutions of drugged soda-water sirups.

"There is no question," said one of these authorities, "that the presence of cocaine in soft drinks tends to create in the consumer, whether child or adult, a predisposition towards the cocaine habit."

It is evident that the manufacturers of these soft drink sirups have only one motive for putting cocaine into them, that is to make them popular, to make them taste good, and make them sell better. And this popularity, this pleasant taste and better sale come simply and solely because there is enough cocaine in these soft drinks to give something of the stimulating and exhilarating effect that cocaine always gives.

"It is not uncommon," says Dr. Kebler, "to find persons addicted to the use of medicated soft drinks."

Parents as a rule, withhold tea and coffee from children, but having no knowledge of the presence of cocaine, caffeine or other deleterious agents in soft drinks, they unwittingly permit their children to be harmed by their use."

As an indication of the danger of young people acquiring the cocaine habit, let me

quote Frank M. Sommer. In an address at East Orange, New Jersey, in which he described his experiences as Chief of Police of the County, he said that in his fight against cocaine sellers in Newark in 1907, when he arrested more than one hundred dealers, he was appalled by the spread of the cocaine habit among school boys. Many of them, he found, were confirmed users of "coke." Dealers sold it to them in quantities as small as a penny's worth.

"During my regime," he said, "I handled more than two hundred cases of victims of cocaine, and among them were some children as young as eight years of age."

### WHAT IS COCAINE?

**C**OCAINE? What is it? The *Standard Dictionary* tells us: "Cocaine, a white, bitter, crystalline alkaloid contained in coca leaves; used in medicine as a local anesthetic."

And again: "Coca, the dried leaves of a South American shrub of the flax family, used in medicine." Needless to add, there is no connection between the coca shrub and the cocoa palm tree that produces the cocoa nuts.

Science by concentrating the essence of coca leaves in the white powder of crystals of cocaine, has put into the hands of men, women and children a terrible agency for evil.

In his message of February 21, 1910, President Taft submitted a report of the opium commission in which Hamilton Wright presented some startling facts regarding the use of cocaine. He says: "Looking at the wider aspect of the use of cocaine throughout the United States there is absolutely trustworthy information that the use of this drug has spread widely among the criminal classes of our large cities, that it is used by those concerned in the white slave traffic to corrupt young girls. ...." The use of cocaine threatens to creep into the higher social ranks of the country. ....

"I consider the cocaine habit the most insidious and terrible in its hold and effects of all drug habits. It destroys the moral sense, its wrecks the body. It is worse than morphine, worse than opium, worse than hasheesh. It is the easiest habit to acquire and the hardest to cure. Among adults it is practically incurable." This opinion was given me by Dr. Podstata, a Chicago physician and recognized authority on the subject.

#### COCAINE WORSE THAN MORPHINE

THERE is a great difference between cocaine and morphine. The morphine habit is bad enough, but cocaine is infinitely worse. The effects of one dose of morphine last for many hours, often for twenty-four hours, but the effects of one dose of cocaine cease within a single hour, so another dose must be taken,

#### Alcohol and Epilepsy

BY DR. E. HERM. MULLER

THAT the epileptic is frequently the child of a drinker is well known. According to the calculation of Martin, one-third of the living children of drunken parents are epileptics. Special importance in the tendency to epilepsy, as well as to feeble-mindedness, has been attributed to intoxication at the time of conception.

In view of the great difficulty in ascertaining whether the occurrence of conception during alcoholic influence is a mere assertion on a probability from existing conditions, Bezzolla undertook to find whether any relation existed between the time of the most abundant use of alcohol and the conception period of the weak-minded. His important work, which brought out the evidence that the periods of highest consumption of alcohol correspond to the periods most fruitful in the production of idiots, is now well known. ....

Statements concerning the alcoholic heredity of epileptics vary considerably. Two au-

and another and another. A man may take morphine for twenty years or more and do his work, but the slave to cocaine does no work and rarely lives more than five years.

"Coke fiends" have no desire for food. They frequently go days without eating and become gaunt and emaciated. They pass many nights without sleeping, in fact they cannot sleep until they fall into a stupor of utter exhaustion.

Out of this stupor they come back to consciousness with only one thought and one fierce desire—to get more cocaine; they must get it to relieve their intolerable suffering and craving, and they are ready to get it by any possible means. They will break any law, they will commit any crime to get this drug or get money to buy it. It takes a great deal more money to buy enough cocaine to satisfy a coke fiend than it takes to buy enough alcohol or morphine or opium to satisfy the victims of those habits.

#### COCAINE NEVER NEEDED

GOVERNMENT chemists are authority for the statement that there is danger from cocaine in soda-water sirups. There is no question of the danger of using it as a hay-fever or catarrh remedy. It is not necessary for this sort of cures. It is not necessary in soda water. It is put into those commodities for the sole purpose of enabling the manufacturer to make more money.—*Hamptons' Magazine*, May, 1911.

#### Alcohol and Epilepsy

BY DR. E. HERM. MULLER

thors who may be particularly mentioned are Strohmayer, who found alcoholic heredity in 20 per cent. of his hospital patients, but stated in a foot-note that among 100 cases in his private practice where the parents were of the better classes, there was no single case of parental alcoholism.

In our own cases, where we had information concerning several generations, with side branches, there were a few of the better class families in which no alcoholism was reported, but I have the impression that we failed to get correct information.

Heinrich Vogt devoted considerable attention to alcoholism as a cause of epilepsy. His book on *Epilepsy in Childhood*, is the best and most comprehensive treatment of the subject based upon extensive experience and knowledge of the literature.

\*Extracts from a Report of Investigations made by Dr. Muller and published in the *Monatsschrift für Psychiatrische u Neurologie*, 1910.

According to Vogt, alcohol, has a very close connection with the origin of epilepsy, even when the epilepsy is only a part of the deterioration due to alcoholism.

It is not yet ascertained how the forms of degeneration are distributed among the mental and physical abnormalities; it is not yet possible for us to make more definite statements in this direction, although we believe ourselves justified in the impression that we have for explanation the fact that the epileptic with hereditary alcoholic taint has also numerous abnormalities in the physical direction, more, it seems to us, than other epileptics. Our exact investigations into this phase of the subject are as yet, however, very limited; we hope later to be in a position to make a report.

Vogt stated that epilepsy in the children of drunkards generally runs a particularly bad course. It fell to us to trace a special mode for this transmission. We were able to observe in a large number of cases that alcoholism in the parents of the paternal mother acted in a deleterious manner upon the grandchildren, even when their own mother was healthy. In one group of patients a process

of degeneracy was manifested analogous to the inheritance of a tendency to hemorrhage from slight causes.

Our work has demonstrated one class of cases in which the attacks ceased immediately after the establishment of abstinence and with no other medical treatment, but returned directly after the first glass of beer. We have patients who showed no signs of epilepsy for years while they abstained from alcohol, but as soon as they gave up their abstinence the trouble at once developed.

From the results of Vogt as well as those of Strohmayer and our own we see the old fact brought out anew, that alcoholism in the progenitor favors epilepsy in the descendants.

Our own study permits the following additional statements:

It is not only the chronic but also the occasional drinker especially who has this influence; alcoholic degeneracy will descend through a healthy daughter in spite of a sound strain on her husband's side, to the grandchildren (her children); the use of alcohol by an individual, even within discreet limits, can bring out a latent epilepsy.

## Is Beer a Food?

BY DR. A. HOLITSCHER, CARLSBAD, GERMANY

[Physiologists are not yet all agreed as to whether alcohol should or should not, at least technically, be called a food chiefly because no comprehensive definition has yet been established. The views of those who think that furnishing energy and checking bodily outgo does not tell the whole story of food value are illustrated in this article by Dr. Holitscher, called out by the attempt of the German brewers to establish a food claim for beer. Editor.]

**B**EER is not a food, can not be, and it is conscious or unconscious deception of the public to assert that it is.

Beer contains, it is true, besides the alcohol and extract, a quantity of fuel material which the body can utilize; should it not therefore be called a food?

No. Other absolutely injurious, unusable and poisonous material like glycerine, fusel oil chloroform or ether are burned in the body and their heat units can be estimated; but no one has thought of calling them foods.

But will not the beer extract promote a better use of other food stuffs; and is not beer for this reason a useful part of the dietary? No. The better assimilation of other food promoted by beer extract takes place only with a very insipid diet. In ordinary circumstances there is an abundance of material furnishing all the flavor necessary to promote utilization, without beer.

But is it not true that a quart and a half of beer a day is uninjurious?

No. On the contrary it is proved that a gram of alcohol per kilo (about 2 lbs.) of body weight—about as much as a quart and

a half of beer would furnish to a full grown man—has considerable influence upon the cell changes. This amount, if long continued, would result in reducing the tissue-store of lecithin—a substance very important for the activity of the brain. The normal disposal of the *purin* substances would be interfered with, a disorder which gives rise to gout. Other important functions and processes would be disarranged.

Can a substance be called a food which sets up such disorders in the body?

But alcohol spares body albumen; that is a sure sign that it, and also beer, may be included in the food list.

Yes, it spares albumen. But why? Because it is a narcotic poison which lowers bodily functions. Fewer motions are made, less work is done; hence body material will of course be saved. *But morphine narcotizing will also spare albumen.*

All the world is agreed that children and youth should receive no alcoholic drinks. Do true foods injure children? Can we conclude that a man will be uninjured by a substance which is poisonous for children?

It has been proved that alcohol even when greatly diluted checks and injures the life of the cell.

*And no substance which like beer, contains 4 per cent. of a cell poison can ever be a food. Whoever so asserts either does not know what a food is, or he deceives.*

### Raising the Masses

By a German Socialist in *Forwaerts*

**T**HIS problem of drunkenness is a problem for the laborer also, and the more so since with him this form of disease means misery. The capitalist can spend his money for alcohol without becoming poorer, for his capital brings him in new wealth. He does not need to expend his physical or mental strength to gain money and can, therefore, dispense with his mind. His life amid pleasant surroundings, the higher grades of liquors and medical care, all soften for him the physical evils of drunkenness.

The laborer, however, who drinks to drunkenness makes his own life and that of his family a horror. He destroys the means of life of himself and family. He ruins his labor power so that his wages constantly sink. He becomes incapable of labor, loses his social position, becomes a beggar and bum and worse than orphans his children. It is not a question of the individual but of the mass; of whether the mass of workers shall dissipate its energies, shall waste its scanty resources, or whether it shall apply these energies and resources to its own education for the instruction of the coming generation and the strengthening of its own organization.—*National Prohibitionist.*

### Keeping the Wits Sharp

**P**ERSONS who with singular untruth are said to "do themselves well", or who habitually take alcohol between meals, gradually develop nerve changes which reveal themselves at first by loss of energy or lessened capacity for business and diminished attention to detail. Intellectually the brain failure also evinces itself by dulness, stupidity, and unreasonable errors. Such changes, which are due to the slow poisoning of the highest cerebral centres, are practically never attributed to the real cause; but, when recognized in time, the betterment which ensues on the adoption of total abstinence from alcohol is very striking. If the alcohol habit is maintained, then the cerebral deterioration increases, and may become so established that

the subject may entirely lose all power to abstain.

We are surrounded by thousands of men and women who are indeed in an early stage of subacute alcoholism, as exhibited by the quality and quantity of their mental power, which is relatively feeble and inadequate because of the lowering effect of alcohol taken in what they deem "moderate" doses. In these people of whom we are speaking all aspects of their psychic life suffer; their intelligence, their sentiments, their will-power are in an abnormal state; the harmonious interaction of the different faculties which go to make up personality being so upset that the temperament becomes altered in a marked way—querulousness, emotional irritability and unreliability being the prevailing characteristics. As the years go by a certain number of these patients slowly develop a state of chronic alcoholic dementia.—Horsley's *Alcohol and the Human Body.*

### Eliminating an Annoyance

**“N**O, THANK you, I don't smoke," replied a bank president, quoted by a Chicago paper, as his host at luncheon tendered him a cigar. "Yes, I used to," he continued, "but I quit it because I wouldn't be annoyed by the craving for tobacco at times when it wasn't proper for me to smoke.

"I made a rule in the bank, you see, that none of the clerks should smoke during business hours. And, of course, I had to keep the rule myself. And I would all the while be wanting a cigar so bad, and be so anxious for business hours to be over so I could get at my cigar, that I was miserably uncomfortable all the time. I could hardly hold my mind to my work.

"So one day I got completely disgusted at the everlasting annoyance of it, and I said to myself, 'Here's where this nuisance quits'; and I haven't smoked since. I stopped with a half a boxful of cigars in my desk, and they are there yet.

"No, it wasn't as much of a hardship as I expected. When once I made up my mind that there wasn't any more smoking for me, the wish for it didn't last long. In just a few days I was working along without any bother whatever."—*Exchange.*

### VAPORIZED CASH

"Mr. Chuggins ought to save a lot of money. He doesn't smoke."

"No, but he has a motor car that does."

—*Exchange.*

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## Conquering Preventable Disease

**A**MID the agitation for better health, the multiplying statistics of the cost and waste of disease and of the misery and inefficiency it causes, there is, nevertheless, a note of hope. The very term "preventable" applied to a class of these diseases which are being reduced by prevention as well as by cure brings encouragement in the knowledge that they may be avoided when enlightened common sense is applied to individual and social health conditions.

Not as much attention as yet has been given to the fact that alcoholism in its various manifestations is also a preventable disease; that insanity, so far as it is determined by alcoholic habits, is preventable, as Mr. Folks' article elsewhere indicates; that a large proportion of general diseases is due either directly to the alcohol-using habit or to a resistance lowered by alcohol, and therefore is absolutely preventable.

To a certain extent, the alcohol-caused disease is more easily preventable than that caused by germs. Tuberculosis or typhoid may be contracted as the result of some hardly recognized inattention to the keeping up of physical resistance. Exposure to the germs of these diseases is often subtle and untraceable.

Disease following continued alcohol-using, on the contrary, is the result of a definite, conscious act, the result of deliberate choice. Such disease, therefore, is preventable, by another conscious act—the deliberate choosing of abstinence.

Statistics compiled from government reports by Fr. U. F. Mueller, published recently in the *Journal*, showed that more men die from alcoholism and liver cirrhosis, which is largely an alcohol-caused disease, than from ty-

phoid, and ten times as many as from small-pox; among women, the death-rate was six times as great as from small-pox. This does not count at all the deaths from other diseases induced or promoted by alcohol.

Two facts, therefore,—not new, but receiving new significance—must soon find place in the great propaganda for public health:

*Indulgence in alcoholic drinks is the cause, directly or indirectly, of a large amount of disease.*

*Disease due to this cause is absolutely preventable by the simple choice of abstinence from alcohol-using.*



## Pure Alcoholic Drinks

EVERY now and then the claim is made that far less harm would be done by alcoholic drinks if only strictly pure drinks were sold.

Under the present pure food laws, if any community is really solicitous about this matter, it should not be difficult to prevent the sale of drinks free from adulteration, since adulterated drinks are as liable to penalties as adulterated foods.

There is much evidence, however, that the harmfulness of "impure liquors" due to adulteration, is considerably overestimated.

More than ten years ago, Dr. J. J. Abel of Johns Hopkins University in his report on the pharmacological action of alcohol prepared for the Committee of Fifty, reviewed investigations of the subject in this country and in Canada, and came to the conclusion that "even the most harmful alcoholic beverages contain only a small percentage of dangerous and intoxicating substances other than ethyl alcohol. .... Ethyl alcohol alone is poisonous enough to account for all the evils of intemperance. ....

"When all the facts at hand are summed up, we must concur in the opinion expressed as long ago as 1859 by Magnus Huss, that the impurities and by-products of alcoholic beverages may be neglected altogether as a cause of the drink evil. ...."

Even more recently, Dr. Alex. Lambert of Bellevue Hospital has had his word to the effect that "to the action of ethyl alcohol alone are due the symptoms of alcoholism as seen in man."

This being the case, it is a mere waste of energy to spend much time chasing the spectre of impurities in drink. "Legislation directed toward the drink evil," said Dr. Abel, "will always have to take account of the fact that the 'best' alcoholic drinks are as capable of producing this evil as are the poorest. Purification of these beverages alone can not hope to eradicate it."

# Class-Room Helps

Conducted by Edith M. Wills

## Remembering and Forgetting

FOR ADVANCED GRAMMAR GRADES

**D**ISCUSS with the class the *value and necessity of memory*. What are the earliest recollections? (These are usually of feeling. Why?) Of what advantage are memories of pain and distress? Let each recall some striking occasion when remembering saved life or served some specially important purpose. Recall others where forgetting at some important point has caused distress or loss.

What would life be without memories of loved ones, happy events, beautiful pictures, objects and scenery? Suppose a case like Helen Keller's before she was taught and had none but the most meagre of memories stored up; of the case of an idiot who has none because he has no mind to register ideas. Consider the necessity of memory in scholarship or business. Ideas, memories, are the tools with which the mind works. Intelligence itself depends upon memory. How long would an employer retain even an office boy who could not remember his orders.

*How memories are stored up.* Trace simply the way in which memories have been stored up. Thus the first years saw spoken words and ideas of the most common, natural objects secured; then the simplest word pictures, reading and writing, and these were followed by easy scientific facts, geography, grammar, etc., with simple associations to link all together. Thus the store grows, but how?

If available, have at hand a phonograph with a wax record of some well-known air or speech, and explain how the impressions are made on the blank wax surface. Slowly reproduce a part of the record showing how the exact sounds registered are reproduced. The making of the record corresponds to the physical memory, the registering of impressions; the reproduction to recollection; the mind of the pupil recognizes the air and that corresponds to the psychic action of the brain in placing, or recognizing the impression previously stored up and recollected.

What is the mental apparatus by which memory records are recorded, recalled and recognized (re-known)?

Recall the gross anatomy of the brain, using chart or drawing on which the various centers are located and named. Show the illustration of the normal nerve fibers and of

the neurons of the gray matter given herewith, and if available, others, and sections of nerve fiber and of gray matter (the latter material can easily be obtained from any meat dealer). See that the pupils have a clear conception of the cell body, its nucleus, nucleolus, and nutritive mechanism, of its axon and of the dendrites and collaterals, also, how particularly dependent the brain and these cells are upon healthy circulation and complete nutrition pointing out the fact that fatigue, illness or any poison in the blood almost immediately affects them unfavorably.

Explain how some afferent impulse, as for e. g., the sight of the color red impresses itself upon, or, we may say, "marks," the cell; of how all the cells in the vicinity of this one also receive something of the impulse, and there is a tendency for this and succeeding impulses of the same kind to cause filaments, i. e., dendrites, to project from it and to connect impressions with other impulses having to do with this and which are stored in cells in other centers. The sight of the color red recalls the written word "red," other red objects, the sound of the spoken word "red," etc. Thus the oftener this cell is stimulated with this sense impression, the more deeply the cell is marked, the more the dendrites grow, and the more connections—associations—are made. Each concept associated with it becomes, as Prof. James has said, a hook by which the idea of red may be pulled up to consciousness, i. e., recalled. All the recorded impressions are necessary to a full comprehension of the concept and of a correct judgment of it. Dr. Thompson says that a well-balanced brain is one which, when some one center starts an idea, waits till the answer comes from all the other nerve centers which have communicating fibers with that center as to what they think about it.

Explain how, as it is believed, these dendrites interlace in the brain much as the branches and twigs of the forest trees interlace and that the impulses, somewhat like slight electric currents, are supposed to pass from one to the other and so full connections are made.

*Requisites for good memory.* For good memory, therefore, it is necessary, that (1) the separate cells holding the records should

be sound, fresh, and well-nourished in order that the records be accurate, clear-cut and definite, and this depends also upon the proper health of the sense organs sending the impulse, and (2) the transmitting "wires," fibers, must be in a condition of "high nervous tension" to quickly and accurately pass on the impulse.

A chain, as we often say, is only as strong as its weakest link. If any one of these mental links is weak or broken the memory is defective. Unless the idea can follow another route or brain path, the memory of the concept will be impaired or destroyed. The excellence of the memory in any individual depends partly upon the number and partly upon the persistence of these brain paths. Clearly enough, memory is the most precious because the most basal of the mental faculties. Judgment, reason, experience, the guide of the wise, all depend upon it. As James has pointed out, greatness depends upon amazing retentiveness; those who have it only in a moderate degree may excel in quality but not in quantity of work. In practical as in theoretic life, the man whose acquisitions *stick* is the one who is always advancing. His neighbors spend most of their time in relearning old matter. Therefore, since happiness, success and highest service depend upon a retentive and accurate memory, no pains should be spared to train it to highest efficiency, and no indulgence which can impair its powers can be afforded. A reasonable amount of time can not be better employed than in teaching pupils how to remember lessons and other important matters. (See references.)

### The Arch Enemy of Memory

REFER to the common knowledge of the fact that heavy drinkers are often considered liars and are practically always exceedingly forgetful. Note, however, that this is the result of heavy drinking. How is it when smaller quantities are taken. Uncover the charts or blackboard drawings of the charts showing the effects of alcohol on memory (*Journal* pp. 67 and 136a).

*Moderate quantities of alcohol reduce the AMOUNT of memorizing work done.* Show first the results of Smith's experiments, the chart, p. 136a (1st section) and that on page 67, showing by the particulars of the test how reliable the results were. Suppose one were learning a number of pages of science. What would be the effect upon the result of the use of a similar amount of alcoholic drink? Apply the reliability in business. What would be the probable effect on advancement if one forgot a number of orders or other necessary data concerning the business in hand? What

effect upon such work as railroading or other particularly responsible work? What effect upon the scholastic or technical work of a man in college? Who would win the highest honors?

*Alcohol increases the TIME required for memorizing.* Show the results of Prof. R. Vogt's experiments (second part of chart, p. 136a) also explaining how his experiments were conducted. Quote similar data regarding Kraepelins experiment which showed that the time required was  $2\frac{1}{2}$  times as long with alcohol as without. Vogt's experiments proved that not only was the time longer, but the matter was not *retained* so well. Apply this to school, college, and business. What effect upon examination and high grades?

### How is This Mischief Done?

REFER to the cuts of the normal neurons and nerves and recall the fact that complete and reliable memory depend upon the integrity and proper tone (1) of the special sense organs and thus their capability to transmit clear and accurate sensations; (2) of the registering neurons (with their dendrites and collaterals) and of the connecting nerve fibres; and depends (3) upon the healthy activity of the recognizing mind.

Show definitely but simply how alcohol even in moderate quantities impairs each part of the process.

1. **ALCOHOL IMPAIRS THE CLEARNESS AND ACCURACY OF SENSE IMPRESSIONS.** Note that this would be expected because of the well-known action of the drug in attacking the nervous system first. (See article on Lipoids p. 81, for one explanation.) Show cut of nerve fibres impaired by alcohol (p. 127) and get the full story of how special senses are impaired. (Cutten, pp. 167-179).

*Sight.* Experiments by Ridge, Kraepelin, Reis and others proved that in persons unaccustomed to alcohol very small doses shorten sight-range, blur forms and shapes, and obscure or even obliterate color perceptions particularly red. In habitual drinkers these temporary effects frequently become chronic; in rare cases the optic nerve atrophies (Galeowski Uhthoff, Knapp and others).

*Hearing.* Specht has shown by experiments that drinking renders hearing less acute or less accurate.

*Smell and Taste* have been shown by the experiments of Kraepelin, Fröhlich and others to be considerably perverted or impaired by alcohol.

*Touch and Muscular Sense*, as Ridge, Lichterfels, Kramer and others have shown, may be greatly diminished or so increased that many distressing and painful sensations are felt in the skin.

2. ALCOHOL AND THE NERVE FIBERS. Observe the cut of healthy neuron and nerves and recall that it is by means of the near contact of their processes and nerves that the connections are supposed to be made with the other brain centres—that associations are possible. Note that Kleefeld's experiments showed that when alcohol was introduced into the circulation it produced almost instantly a retraction of the minute branches of the neurons, or at least a great number of them. Compare this condition with the similar one of trying to communicate with a number of persons on a telephone system after a storm has thrown down various sections of line and weakened some of the batteries. As we well know, large quantities of alcohol put the memory entirely out of commission for the time being.

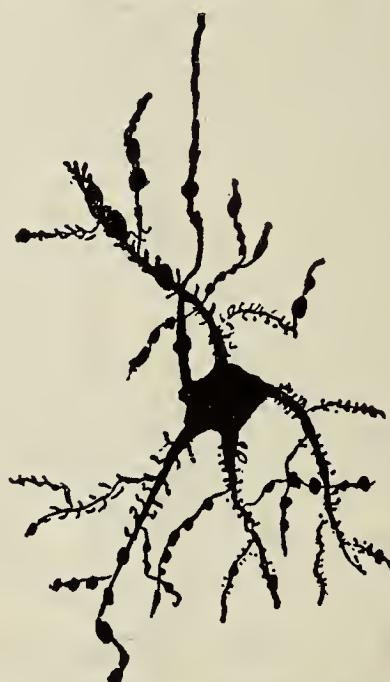


HEALTHY BRAIN CELL FROM CORTEX.

The man who drinks once is likely to drink irregularly, and then to become a regular user. The illusion of increased ability and well-being leads him to think he is receiving benefit rather than harm. What effect would this course gradually produce upon these marvellously sensitive, microscopic nerves? Show the pictures of the damaged neuron explaining that it was taken from one who was a chronic alcoholic at the time of his death. Let it be noted that many of these processes were entirely destroyed and others were swollen and degraded. What of the voluntary attention necessary to good memory which such cells as these could order? of will power, and judgment for which such as these would be responsible? Moreover, these cells if entirely destroyed can never be replaced. Why may a reformed drunkard be weak in memory, judgment, self-control?

But thus far we have referred to the *constitution* of the nerves. What of their *tone*? Bring out the fact that the blood of the drinker is more or less impoverished, the circulation impaired, thus the cells lacking the necessary nutrition are in a state of lowered tension and work feebly.

3. ALCOHOL AND THE CLEAR HEAD. What is the effect of alcohol on the brain as whole, therefore on the mind? Show that recognition is the characteristic feature of memory and that upon which its trustworthiness depends. It is a purely psychic function and so cannot be demonstrated as others are, yet experience shows, as our knowledge of the toxic influence of alcohol would lead us to expect, that the drinker's memory is very untrustworthy. He does not recognize well. He thinks he has experienced things he has not and vice-versa,



BRAIN CELL INJURED BY ALCOHOL.

does not recognize familiar way and things. He is particularly likely to mistake time and space relations, often loses his way home.

*"It is because the mind of the alcoholic is not able to function i. e., to be active, that he is not able to remember."*

**Purpose.** To convince the youth's reason and thus furnish him a powerful motive for avoiding alcohol by showing (1) the preciousness of the memory as a basal faculty; (2) the way in which this function is discharged; (3) the extent to which it is impaired by alcohol; and (4) by pointing out the toxic effects of alcohol on the several processes to show the practical certainty that alcohol must to some extent impair and, in extreme cases, destroy, the memory.

**References:** "Control of Body and Mind," Gullick Hygiene Series; "Brain and Personality," by Dr. W. Hanna Thomson; chapters on Memory by Prof. James; "Psychology of Alcoholism," by G. B. Cutten, Ph. D.; "Alcohol and the Individual," by Dr. Henry Smith Williams, (Reprint from "McClures' ", price 5 cents).

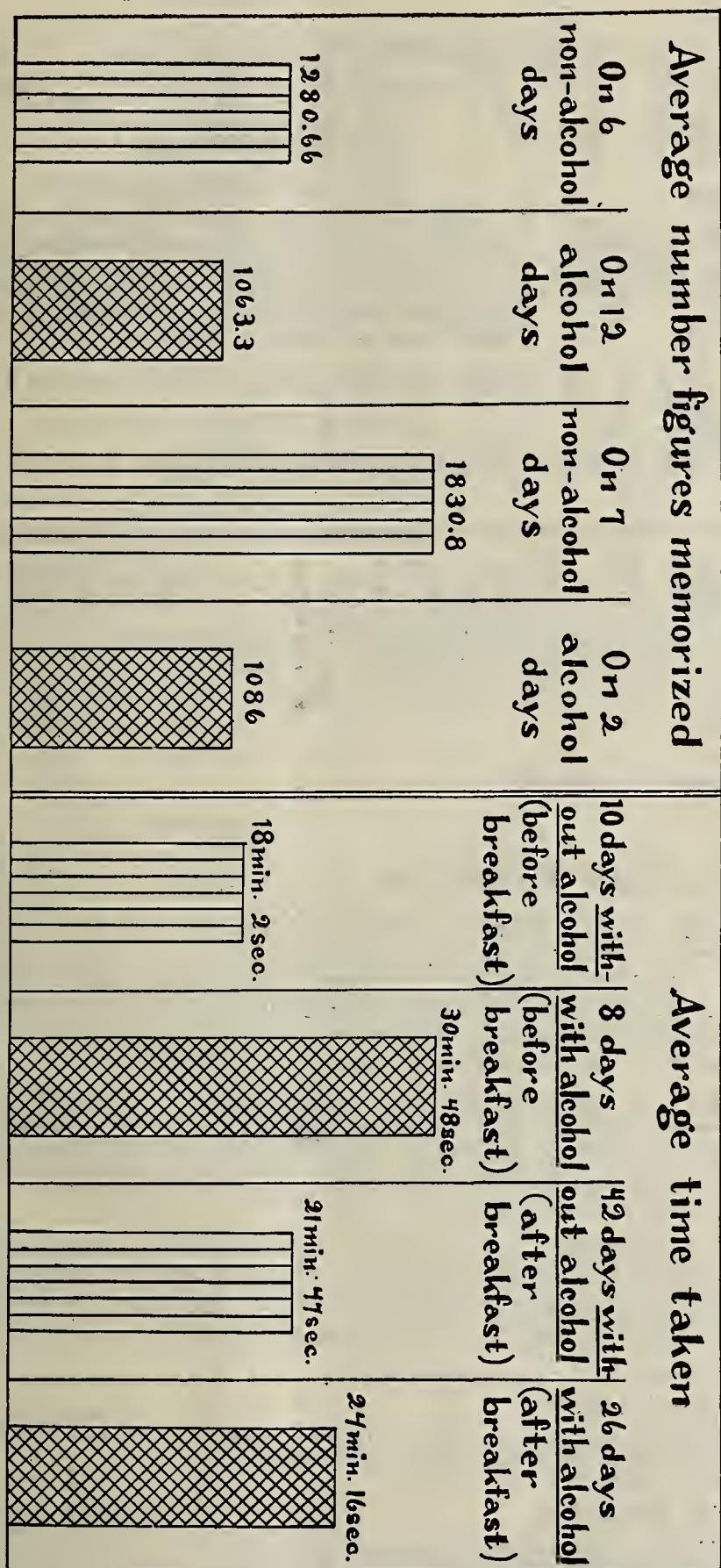
# Effect of Alcohol on Memory

Decreased the amount of memorizing done in a given time.

[From experiments by Prof. A. Smith who practiced memorizing figures for 1-2 hour a day for 27 consecutive days.]

Prolonged the time required for a given amount of memorizing.

[From experiments by Prof. Vogt in memorizing 25 lines of the Odyssey.]



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— *Continuing the* —  
**SCHOOL PHYSIOLOGY JOURNAL**

## Kingdoms

By Charles Buxton Going

KINGS of a hundred *Dreadnaughts*, ruling the Seven Seas—  
Parked artillery, powder and steel—shall ye endure by these  
Keeping an armèd lordship of earth whereso your sentries stand ?  
What are Akkad and Assur now ? Shards, in the drifting sand.

Kings of a thousand forges, kings of ten thousand men,  
Liner and limited, shuttlewise thrown, from port unto seaport again,  
Weaving a web of infinite threads, giants of hand and of brain—  
Where are the galleys Phoenicia sailed ? Ooze in a desolate main.

Kings of the soul's out-searchings, kings of the far ideal—  
Poets, philosophers, prophets—the Christ—lifting men nearer the Real—  
Not unto dust as the war lords go, not as the lords of greed,  
But rising forever from life to life—kings and Messiahs indeed !

—*Cosmopolitan*.

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### MEDICAL CONFLICT

Little Johnny's father is a physician and his mother is a Christian Scientist. Recently the little boy was threatened with appendicitis. His sister, going into the room where Johnny was in bed, found a very indignant little boy, who made this complaint: "Father and mother won't let me talk slang, but when I told mother how sick I was she said 'Forget it,' and when I told father, he said 'Cut it out!'"—*Judge*.

# Scientific Temperance Journal

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No. 10

## Divine Statecraft

IT is a fine thing to help an individual man or woman, but it is divine statecraft to build up a good custom or break down a bad one that shall control the actions of men long after individuals are forgotten—*Amos P. Wilder, Consul-General, Shanghai, China.*



## Alcohol as a Remedial Agent

BY DR. HARVEY N. WILEY

Chief of Bureau of Chemistry, U. S. Department of Agriculture

**A**BITTER controversy has been raised over the question "Is alcohol a food?" It has been shown by Atwater and his assistants at Middletown that the average adult human organism is able to oxidize with practical completeness a considerable quantity of alcohol per day. This quantity of course varies in different individuals but may be taken pretty accurately at about three ounces of alcohol per day for each person. This quantity must be distributed over different periods of the day, as to take it all at once would not only defeat the purpose of the experiment but in most cases would probably produce actual intoxication.

I think there is a marked tendency in the medical profession to regard the virtues of alcohol as very questionable. The old idea that if one is going to expose himself to extreme danger or extremes of climatic conditions, the body should be fortified by the use of alcohol has disappeared. It is quite certain now that the taking of alcohol does not make one any less apt to freeze, but more so, and it does not give any such quantity of energy as to be at all compensatory for the injury it may otherwise produce.

I have stated on the witness stand in answer to a question that I considered alcohol to be a food because a certain quantity of it is burned in the body and results in the production of heat and energy. In the light of the investigations which have been made from theoretical conditions, I am inclined to the opinion that the effort to rid the body of alcohol, even in the limited quantities I have mentioned, perhaps consumes a great deal more energy than is furnished by its combustion, and that upon the whole, alcohol can not be regarded as a food even in the limited sense above de-

scribed. It is, without question, a substance which does not nourish the body, build tissue, or repair waste, and it is quite likely that its value either as a food or medicine has been greatly overestimated. . . .

The action of the German Emperor in calling attention to the abuses incident to the consumption of alcohol has led to a wider discussion of this problem in many circles and the effect of alcohol upon the children of Bavaria particularly has been cited as an instance of its harmful effects, especially when offered to and consumed by those of tender years. The German Emperor now permits his health to be drunk in a glass of water, and this it is claimed will be a great stimulus looking towards the restriction of alcohol drinking in the German army. The susceptibility to certain diseases of persons addicted to alcohol has been noted by many writers. Apparently, persons using alcohol, especially if using it constantly, or to some excess, are more obnoxious to solar radiation than those of abstemious habits. The records of death by sunstroke indicate that a very large percentage of those who suffer from it are addicted to the use of alcohol.

Dr. Reid Hunt, in his study of the effect of nitrils on small animals, found that mice which had previously been given alcohol were much more susceptible to poisonous influences than those which had not. The tendency which the alcohol undoubtedly has to weaken the bodily resistance is not a matter to be left out of consideration.

The general result of the study of this problem has been an accelerated movement to restrict or limit the use of alcohol in medical practice and especially in hospitals. A few years ago some alcoholic beverage was regarded as necessary in the treatment and elimination of the causes of disease. At

\*From the "President's Address" Amer. Therapeutic Society, Boston, May 11, 1811.

the present time, the use of alcohol in any form as a food product is extremely restricted. The idea that alcohol stimulates mental effort and produces facility of expression is rapidly disappearing. It is doubtful whether a single brilliant thought or poetic or elegant expression has ever owed its origin to alcohol in any form. It is true that alcohol seems to take the bridle off the tongue and give free rein to conversation but this effect is produced by a paralysing influence on the sense of responsibility rather than a stimulating influ-

ence upon the general flow of ideas. Alcohol undoubtedly relieves the individual under its influence from his sense of responsibility as a moral agent and permits a freer expression of ideas, even if they are not so good as those which would be expressed with more reluctance when in a normal state. Both as a means of prevention of disease and as a remedy for disease alcohol is rapidly falling into disrepute and bids fair to become a mere memory in the *Materia Medica* and in the *Pharmacopoeia*.



## The Real Culprit in Lead Poisoning

**I**N France a few years ago the question of protection of painters from lead poisoning came up as a subject demanding legislation. It was thought that dealers must either be prohibited from selling certain preparations of lead or be placed under precise restrictions.

A recent article by Dr. George Petit in *Les Annales Antialcoolique* (April, 1911) reviews the discussion of the subject and the evidence collected at the time the question was being agitated for legislation (1905). Beside an official investigation made by a commission appointed by the Senate, another was conducted by a writer for the *Medical Bulletin*. This writer, M. Janicot, sent a letter of inquiry to the contracting painters of the country and received replies from 6,750 professionals. These filled seventeen volumes which were submitted to the senatorial commission.

These replies furnish, he believes, circumstantial evidence as to the real, or chief culprit in lead poisoning. The testimony of the painters themselves is quoted.

Th. C., labor-contractor, 72 years of age, had used white lead fifty-seven years, often handling it with his hands without ever being injured by it, but he remarked that he had always been sober, had never smoked, and always washed thoroughly before eating.

M. E. M., contractor, father and sons all professionals, had used white lead for many years, often handling it with their hands, and not one had ever suffered any inconvenience from it. The father, eighty-three years of age, had been engaged on some of the most important buildings of Paris and was still in full possession of all his faculties. Uncles and cousins of the contractor were in the business and had never had any trouble nor had he himself, though he had been engaged in painting since 1857. But he and his predecessors had observed that the men attacked by lead

poisoning were those who neglected the rules of common propriety (personal cleanliness) and were addicted to alcohol.

M. L., contractor, was attacked by lead colic at the beginning of his apprenticeship; consulted three physicians to know if he must give up painting. Two said yes. The third, a renowned physician of Valenciennes, (M. Lecerf) said, No, but that he must invariably observe three rules; (1) wash his hands before eating, (2) wear proper clothing (protective) and (3) not smoke.

M. H. L., a labor-contractor, declared that the causes of painters' troubles are smoking and making cigarettes while their hands are soiled with paint, and, addiction to alcohol.

Another contractor said: Today when all the colors are mixed mechanically the danger is *nil*. It would be more hygienic to suppress alcohol and tobacco.

Another said: No workman who is careful and sober ever has lead colic.

A Normandy firm said: The cause of trouble is alcoholism and lack of hygiene.

Another firm had never known any but alcoholic workmen to be poisoned, and attributed the poisoning more to drink than to handling the lead. . . .

It was shown by the investigation that the frequency of lead-poisoning in painters decreased with their distance from large cities, or more precisely, from the drinking places of large cities, which are the real culprits.

The conclusion from all the evidence collected was that the way to protect the health of the workmen was not to place restrictions upon the paint dealers as to what products they might or might not sell, but to insist on personal cleanliness and suppress the real contributing causes of the trouble, the use of tobacco and alcohol by the workmen.—Translated for the SCIENTIFIC TEMPERANCE JOURNAL.

## The Drain upon Sick Benefit Societies

By U. F. MUELLER, C. PP. S., CARTHAGENA, OHIO

**T**ODAY we can state it as an incontestable truth that the immoderate use of alcohol by our laboring men fastens upon sick and accident insurance an unduly heavy burden. We have found alcohol to cause and aggravate many diseases and accidents which bring on premature death and much temporary incapacity to earn. No less is it a principal contributory cause in many diseases leading to early invalidism."

This emphatic declaration (1908) by Dr. Hansen of Keil, Imperial Councillor and Director of the German Board of Insurance points to a long and costly lesson of experience, the full figures of which are probably even yet not complete. Kulhanek, for example, quotes a case of a brewery laborer, 42 years old, for thirteen years a member of an insurance society, who paid in assessments \$91.93; he drew, for 779 days of sickness, benefit amounting to \$271.66, a deficit of \$179.73. The man was an ordinary heavy beer-drinker.

The case may seem somewhat extreme, yet every insurance society that has a large number of heavy drinkers faces extraordinary expenditures for them. This is clear from a report of the Austrian Secretary of the interior covering the years 1891-1895, and comparing the average number of days that laborers in the alcohol industry were sick with the general average of all other laborers. The time lost by general laborers averaged, for the various age groups, 8.8 days; for laborers in the alcohol industry the time lost was 10.3 days. The difference may seem small, but in the aggregate it amounted to an additional loss for alcohol industry laborers of 30,000 days costing \$12,000 in benefit insurance.

### BEER DRINKERS ALSO INCREASED SICKNESS RATE

BUT it might be thought that it is the whisky drinkers who thus swell the sick-benefit budget of the alcohol industry laborers. Dr. Welminsky examined the cases of 520 drinkers who used either whisky or whisky and beer, and of 483 persons who used only light Bohemian beer (3 per cent. alcohol) although some of them indulged rather freely. Comparing the cases of a long list of diseases traceable wholly or partly to alcohol, he found 129 among the whisky drinkers and 327 among the beer drinkers.

In German cities where insurance is obligatory the sick rate among brewery employees and certain classes of workmen known to be

generally heavy drinkers greatly exceeded the general average.

The Leipzig local society carried its studies further. Without going into all the statistics, it may be said that the investigation showed (1) that the heavy drinkers were subject to sickness two or three times oftener than the general class; (2) that they were incapacitated for work from 1.5 to 2.5 times more than the general average; (3) that their mortality rate was much higher than that of their more temperate companions.

### THE BURDEN OF INVALIDISM

NOR was this all. The Leipzig investigators classified the duration of incapacity for work into three groups of 3, 6, and 8 months each. They found that of every 1,000 persons observed, the average sickness at all ages in the three groups was as follows:

	3 months	6 months	8 months
General class	9.4	4.4	5.4
Drinkers	36.7	6.0	10.1

These figures speak for themselves and testify that the ways of the transgressor against the natural laws are fraught with misery. Can the momentary alleviation of pain or painful surroundings outweigh a three to eight-months' lingering disease, not to speak of doctor's bills, etc.?

### TRADES, DRINK BILLS, AND SICKNESS RATE

DR. HUGO DEUTSCH, consulting physician of the General Workingmen's Sick Relief Insurance Society at Bruenn, Austria, grouped his statistics according to the average drink bill of the insured, as follows:

I. Metal workers spending 10.1 per cent. of weekly wages for drink; II. typesetters spending 8.7 per cent.; III. other trades spending 4.8 per cent.; and IV. textile workers spending 4.8 per cent. of weekly wages for drink.

Examination of ten years' records showed that time lost from sickness and accidents closely paralleled the difference in the expenditure for drink.

The strict parallelism is but twice broken, once in accidents where typesetters had the smallest rate since they are not much exposed to accident, and once in consumption to which typesetters were especially exposed and where they had the highest sickness rate.

Science which twenty-five years ago began merely to warn against immoderate use of alcoholic beverages has progressed. Scientific researches have shown that alcohol not only

in large quantities but even in small doses is dangerous. In fact, science can not assign any definite dose small enough to be declared harmless for everybody. It may be that such a dose exists, but it varies with the individual's

predisposition. The less one takes, the better are his chances for a long and healthful life.

The abstainer is a man who desires to avoid even the least chance of being poisoned by alcohol.

## New Studies of the Relation between Alcohol and Resistance to Tuberculosis\*

THE normal resistance of the body against tuberculosis appears to lie more in ability to prevent the germs from finding a lodgment than in ability to combat them when they have begun to attack the tissues. When once they have obtained a foothold, the method of resistance appears to be more successfully directed to walling them in and preventing their spread, than attempting to actually kill them, as is the method with other germs.

A series of experiments has recently been reported from the laboratory of Prof. Weichselbaum, in the University of Vienna,\* which sought information as to the influence of alcohol upon the course of the disease after it has been implanted. The animals were directly inoculated with the germs of tuberculosis, so there was no question of preventing the entrance of the germs, but of the length of time the body could hold out against them.

The experiments were conducted by Dr. Walter Kern, who followed in general the method of Prof. Laitinen, except that Dr. Kern used guinea pigs exclusively, and took particular care to use for "controls", or comparison animals from the same parents, and, where possible, from the same litter. The special "control" of each alcoholized animal was confined in an adjoining pen, so that all other conditions except the alcohol administration might be practically identical. Wherever slight differences in weight could not be avoided, the advantage was usually given to the animal that was to receive alcohol, the lighter one being taken for the "control."

Three classes of doses were decided upon—small, medium and large.

The "medium" dose given was always the same. The "large" and "small" doses varied with the weight of the animal. The alcohol given in the "small" dose proportioned to body weight was equivalent to what a man weighing 150 pounds would get in one eight-ounce glass of 3½ per cent. beer a day. The "large" doses, which also varied with the weight of the animal, corresponded to 4½ eight-ounces glasses of 3½ per cent. beer daily for the full-grown man.

\*Zeitschrift für Hygiene und Infektionskrankheiten, 1910.

The accompanying table shows the number of days each class of animals lived after infection in each series of experiments. Two series of experiments (indicated by Roman numerals) were to have been performed in each group but there were so many fatalities in the large dose group that only one series could be carried through in that.

	Small doses		Medium doses		Large doses	
	I	II	I	II	I	II
Non-Alcohol	65 days	145	57	81	143	
Alcoholized	58 "	122	36	57	109	
	7	23	21	24		34

### THE RESULTS OF ACCIDENTAL PNEUMONIA

As in the experiments of Prof. Hodge, an accidental sickness occurred among the animals which helped the general purposes of the inquiry, though in Dr. Kern's case it resulted in the death of so many of the animals that it interfered with the full scope of the experiments, as he had planned them.

Pneumonia broke out among the guinea pigs. The following table tells at a glance the story of results.

### DEATHS FROM PNEUMONIA

	Small dose group	Medium dose group	Large dose group
Alcoholized	33 p. c.	30 p. c.	55 p. c.
Non-Alcohol	16 "	none	7 "

### THE HEREDITARY EFFECTS

DR. KERN also kept a record of the health and vitality of the progeny of the normal and the alcoholized guinea-pigs. From the ninety alcoholized animals he obtained 23 young, from the normal 17. Shortly after birth or later from accidental disease, chiefly pneumonia, 65 per cent. of the young of the alcoholized animals died and 52 per cent. of the young of the normal animals.

### SUMMARY OF CONCLUSIONS

I. ALCOHOL, even in small doses, steadily lowers the body's power of resistance. It makes it more susceptible to infection in general. It hastens the fatal termination when infected with tuberculosis.

II. Alcohol exerts an injurious effect upon the offspring. It diminishes ability to live. It has an unfavorable influence upon the course of tuberculosis infection.—Translated for the SCIENTIFIC TEMPERANCE JOURNAL.

## Alcohol and Length of Life

**A**BOU'T seventy years ago a young man in England wished to insure his life and applied to a London Company for a policy. When it was learned that he did not drink liquor he was told that he must pay an extra premium, as it was then believed that a little whisky or wine was healthful, and that a man who did not drink would not live as long as one who did. The young man did not think the company was right, so he formed a company which insured only persons who did not drink. This was the United Kingdom Temperance and General Provident Institution. For ten years this company insured only persons who did not drink. Then it opened a new department which insured those who drank a little. Even these were carefully chosen as to health and the amount they drank.

The company was in this way able to watch for more than sixty years and see which of their policy holders died the earlier—those who drank or those who did not drink. They found that among those who drank there were many more deaths in proportion than there were among those who did not drink. Among the policy holders in the prime of life, that is, among those between forty and fifty years of age, the proportionate number of deaths among drinkers was even greater than among those of all ages.

Look at the first section of the illustration (page 148a) and you will see the experience of the United Kingdom Temperance and General Provident Institution for forty years. It was found that out of every 100 deaths expected among the drinkers, 93 deaths actually occurred, while among those who did not drink, only 70 out of every 100 expected deaths occurred. The experience of another company, The Sceptre Life Insurance Company (section 2 of illustration) shows a better record still for the policy holders who did not drink as compared with drinkers. The members of that company, however, were all chosen through religious bodies, the company thinking that people who led good and religious lives lived longer, and this proved to be true from the experience of the company.

Similar results have been obtained by other British societies. A Canadian company, which recently established a department for insuring only those who did not drink, found, by a five years' experience ending in 1909, that the number of deaths in the new department was only a little over one-half of the number of the older department.

Dr. Ekhrens of the Swedish Life Insurance

Company recently furnished evidence which agreed with that of the English companies. He found that drinkers under forty-three years of age came two per cent. nearer the death rate than non-drinkers at the corresponding ages. For those over forty-three he found that the drinkers came 26 per cent. nearer the expected death-rate, which again indicates that the heaviest damage done by alcohol occurs during the years of greatest ability—at the age from forty to sixty years of age.

An interesting study was made in Chicago in 1909 of all the deaths of men of sixty years and over occurring in the one month of April. The results were what was to have been expected from the experience of the insurance companies. Of the 175 deaths of men over sixty years of age information as to their drink habit was obtained in 152 cases: 73 did not drink; 75 were moderate drinkers; 4 were heavy drinkers. The drinkers on the average had reached the age of 68 years, but those who did not drink passed the three score and ten mark, reaching over 72 years, or four years more than the drinkers. Figures for the age of forty-five and over would probably have shown a larger difference because of the heavier death-rate in drinkers between forty and sixty. None of the heavy drinkers had reached the age of eighty, but 19 who did not drink and 8 moderate drinkers had passed it.

### ALCOHOL AND ITS INFLUENCES ON FATAL DISEASES

IT is as yet quite impossible, in the United States at least, to tell just how many deaths are brought about, directly or indirectly by alcohol. Especially is this true in trying to determine the number of cases of deaths from diseases promoted by alcohol. In Switzerland provision is made for learning these facts, and the records of that country throw some light on the subject.

Dr. Rudolph Pfister made a study of the records of the city of Basle for the years 1892-1906, finding the percentage of deaths in which alcohol had been reported by the attending physician as one cause of death. He found that 18.1 per cent. of all deaths of men between 40 and 50 years of age were caused, in part at least, by alcohol, and this at what should be the most active period in a man's life, the time when he is most needed by his family and community. Taking all ages between 20 and 80, he found that alcohol was one cause of death in one man in every ten who died.

Another study was made by a certain doctor in Sweden, from records of 1,082 deaths oc-

curring in his own practice and the local hospital. No case was counted as alcoholic of which there was the slightest doubt. Of deaths of adult men, 18 in every 100 were due, directly or indirectly, to alcoholism. In middle life between the ages of 40 and 50, 29; and between 50 and 60 years of age, 25.6 out of every 100 deaths had alcohol as one cause, thus agreeing with other statistics we have been quoting.

### The Medical Man and the Alcohol Question\*

BY PROF. G. SIMS WOODHEAD, A. M., M. D., F. R. S. E.

Professor of Pathology, University of Cambridge

**A**MONG the agents which produce degeneration of tissue, alcohol may be characterized as the most prominent of all, it having an especial action on the most highly developed tissues of the human body. The nerve cells and the cells of the secretory organs are specially affected, causing an alteration in the secretions and a departure from the physiological normal nearly akin to the pathological. The effect of alcohol is to divert function and to cause alteration of structure which has a constant tendency to become permanent.

The action of alcohol on the lipoids is similar to that of poisons like chloroform and ether, which dissolves lipoids and are, therefore, ranked as paralyzing substances. Meyer has spoken of the lipoids as the insulators of nerve-fibres, and when these are destroyed a system of "short-circuiting" is produced.

Much has been made of the normal presence of alcohol in young growing tissue but alcohol is not easily produced from milk sugar and the growing tissues of the child are not affected by the extremely small physiological production of alcohol in the system.

Speaking of the action of alcohol on the liver, he said that this organ, which dealt with many poisons is unable to deal effectually with alcohol and, therefore, suffers from its introduction. A cloudy swelling of the liver-cells, which is produced by ether and some metals, indicates an over-use of the organ. This is specially the case with alcohol. Over-use of the liver-cells and too frequent stimulation unfits them for their proper function, and fatty degeneration and loss of function results.

He referred to the responsibility of medical men in prescribing alcohol—the prescription is always remembered though the occasion is

\*Substance of the president's address at the annual meeting of the Cardiff Branch of the British Medical Temperance Association, University College, Cardiff.

forgotten—and quoted Sir Victor Horsley's story of the doctor who prescribed alcohol, and the patient still continued the medicine, though the doctor had been dead twelve years. He addressed a warning to the coming generation of medical men as to the care necessary in prescribing alcohol with scientific exactitude, the same as they would any other powerful poison.

He showed how the statistics of the London Temperance Hospital had demonstrated that results at least as good, if not better, than the ordinary hospital results have been obtained without the use of alcohol. Referring to the effect of alcohol in fevers he asserted that people recover because they have developed antibodies and immunity is produced; alcohol interferes with this production of immunity as has been shown experimentally in animals in cases of hydrophobia, tetanus and anthrax, and its administration is therefore undesirable.—Reported in the *British Medical Temperance Review*.

### A Wife's Confession

**M**AKE no mistake in reading the following little confession of what I would like to tell my husband. My desire to tell him certain things about himself which affect our mutual life is by no means born of spite or anger. Indeed it is rather born of a great love which would have perfection in the beloved object. ....

If I dared "speak out in meeting" here are some of the things I'd say to my husband:

I would tell him that women are peculiarly susceptible to odors; that they are in a measure, a determining force in their lives. To me, for instance, there is nothing quite so repulsive as the nauseating fumes of stale tobacco smoke. Some men can smoke and smoke and be nearly free from all taint of it, while others seem to give it forth from their very pores. I would tell my husband very gently that he is one of the latter, and that there are times when I feel like opening all the windows in the room in which we are sitting.

I would tell him that women are peculiarly fingers wretchedly stained by nicotine and suggest that he put them through a thorough cleansing with peroxide and powdered pumice. When he was courting me he did not smoke in my presence except once in a great while, but now I must worship him, not through clouds of incense, but through those of cigaret or pipe smoke or not at all.

(Continued on page 143)

# Scientific Temperance Journal

Founded by Mary H. Hunt

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## Editorial Responsibility in Social Education

THE popular magazines are doing valuable work in rousing public conscience on many matters. Among others, the alcohol question in recent years has frequently received fair and enlightening treatment. The great majority of these magazines now exclude advertisements of alcoholic beverages. Occasionally the fiction incidentally reflects a changing public opinion in regard to the use of these drinks. But the editorial departments on the whole seem not to have progressed as rapidly in this respect as the advertising departments. While it is to be readily admitted that drinking customs still occupy too large a part in actual social life, it is fair to ask the editors and publishers of these magazines whether the time has not now come to omit representations of it from their fiction where they exert a sub-conscious but definite influence on the reader directly against the current of other influences tending to promote sobriety. As a matter of fact, would the average reader miss such allusions from the story?

The latest issue of one magazine which is declaiming with considerable vehemence against certain cases of individual and political culpability contains eight stories. Two relate to children. Of the other six, four depict their characters as drinking, some occasionally, some politely, some with a sneer at comparative abstemiousness, some grossly, all as a matter of course. Illustrations show both drinking and smoking. In no case would the omission of the drinking reference have interfered in the slightest degree with the realistic or literary qualities of the tale. Their inclusion carries over into the minds of the young readers of a new generation the social standards of a passing day, standards now becom-

ing increasingly recognized as subversive of health, efficiency and social usefulness.

Protest helped clear the advertising columns of liquor advertisements. Protest is needed right now against this further subtle perpetuation of social ideals which science and experience have shown conflict with society's best welfare.

## What Life Insurance Says

By EUGENE L. FISK, M. D.

Medical Director Provident Savings Life Assurance Society of New York

**I**N recent years all life insurance companies have discriminated against the steady tippler and the periodical free drinker. As intemperate risks have usually been excluded, even for substandard or rated-up policies, there are no comprehensive statistics on this class. We do know, however, from the collective experience of thirty-three life insurance companies, extending over a period of thirty years, that accepted risks giving a history of former intemperance show a very high rate of mortality, about 36 per cent. above the normal average. As such risks are always critically examined before acceptance, the high mortality of this class, notwithstanding the precautions taken, should serve as a warning to those who think they can over-indulge in alcohol with impunity over a period of years, and then look forward to a quiet and healthy old age.—*Sunday School Times*.

(Concluded from page 142.)

Then I would tell him that I can not help but think of the cost of this habit of his. On Monday I put the remainder of Sunday's roast through the meat chopper in order to save a trifle on the weekly butcher's bill, and after eating my croquettes or meat loaf, Mi-lord sits in the parlor and sends several times my small savings forth into smoke.

"Yes," and you buy candy and soda in place of my cigarettes," I can hear him say if I dared tax him with this, but I would tell him that if he would promise to smoke only the value of what I spend weekly in these little luxuries I would be altogether content, for if I, or any other woman, ate as many sweets as our husbands' tobacco money would pay for, we would have a ruined stomach and complexion. It is not that I wish to deprive my husband of the chief masculine comfort, but I do think he is selfish and extravagant about it, and that it has become an unclean and injurious habit with him. I don't tell him all this, however; I grin and bear it.—*The Delineator*.

# Class-Room Helps

Conducted by Edith A. Wills

## The Value of A Life and How Best to Spend It

FOR ADVANCED GRAMMAR GRADES

**Purpose.** To appeal to the boy's reason and his sense of the heroic, to show him the value of his life and health and then to show the unwisdom of trading life and its opportunities for so little—to make such a poor bargain; and to show further that while comparatively few cases so extreme as this occur, yet the chance is great enough to make it unwise to take it, and in less extreme cases there is more or less of suffering and loss.

### THE ECONOMIC VALUE OF A BOY'S LIFE

**W**HAT is the allotted span of life? The boy has about fifty years to live after he is of age. If, as is probable, he no more than supports himself after he is sixty, then he has forty years in which to work for himself. The average annual wage of a man having only a grammar school education is, say, \$400; of a high school graduate about \$600; and of the graduate of a college or technical school about \$1,000. Let the boys reckon the value of the life at each price for the forty working years. From a money point of view the boy's life is a very valuable one.

Note, however, that this supposes continuous health and unimpaired mentality. If these are impaired, earning fall off. What is always the tendency of the effects of alcohol and tobacco on health?

### THE VALUE OF A BOY'S LIFE AS A POTENTIAL PARENT

THIS is a side of life values that probably never occurs to the boy and yet it may well be brought to his attention. Ask the boys to consider the value of their own fathers, each the parent of one, two or more sound children who in their turn are to become good citizens and add to the wealth, the liberty and the opportunity of the country. The value of each father may be better comprehended by supposing that the bread-winner, the defender, the joint guardian and trainer of the children be taken away. Perhaps in no way is a man's life of more value.

### THE VALUE OF A BOY'S LIFE TO HIS COUNTRY

HIS economic value is equal as we saw to the earning power of \$12,000 annually at 5 per cent. interest.

What is the good citizen worth in times of peace? Contrast with the law-breaker, the drunkard, the one whose life exerts an evil influence, or with a murderer, will readily show

that every man who "pulls his weight" in the ship of state is of real value.

What is he worth as a defender in time of war? Let the boys recall the days of the Revolution and of the Rebellion, and other crises in our national history and realize how the fate of the nation hangs on its citizen-soldiers. Just an ordinary citizen then, is a wealth-producer, a defender of his country in time of war, a constructive helper in times of peace.

### THE POTENTIAL VALUE OF THE BOY'S LIFE IN GENERAL LINES

BUT these measure only a part of the great potentialities of a boy's life. He may be useful or distinguished in a thousand ways. His possible value as an inventor may be measured by an Edison or a Wright; as a statesman by a Roosevelt; as a patriot by a Washington; as an emancipator, by a Lincoln, etc.

Perhaps not one of these or a hundred other great men showed in boyhood any remarkable qualities. Any group of boys may contain a great man. Certainly it contains those who can and will excel and be eminently useful. None, least of all himself, must dare to spoil a boy; his possibilities are too wonderful.

### WHAT IS LIFE WORTH TO THE BOY HIMSELF

WHAT is even a year of healthy existence, life, worth? Judge by the price men are willing to pay. It is common for men to undergo fearful suffering or to cheerfully give an organ, a hand or a limb that life may be prolonged even for a time, or for others to endure the most fearful hardships on land and sea in order that life may be sustained. Nothing would tempt a boy to sell just one year of his life. What then, are forty years of vigorous health and active life worth?

But there are things far dearer than mere existence, valuable as that is. What is freedom worth? Let consideration of the lives of Africans held as slaves answer. Imagine what it would be to be deprived of liberty, the pursuit of happiness, the power over one's own body, actions and activities. What have Patrick Henry and ten thousand other patriots said liberty was worth? Suppose you were offered money or anything valuable in the world you could ask for your life and health and liberty, can you imagine anything that

you would take in exchange for them?

If then, life and liberty are unspeakably valuable surely we shall think well before letting them go for little or nothing.

#### A POOR BARGAIN

HAVE the true story of the smoking college man (p. 146) read by the boys, each reading a paragraph. Bring out the main facts in two parts as indicated below, first writing upon the black-board the items under "Investment." Suppose that each of you were similarly blessed, what would you sell out the entire holdings for?

Next take up the first installment under "Returns." He possibly saved himself a little embarrassment and gained a little popularity. (How high should one rate the value of a popularity with the faster set of a college?) At first he had some pleasures while using the tobacco. There was as yet not much fear of trouble ahead. Admit freely all the possible advantages or pleasures. But even at that stage when one considers the forming of what is admitted to be an unclean, unhygienic, enslaving, and expensive habit, did he really make a very good bargain?

Take up the second installment, writing the "Returns" as developed opposite the "Investment." There may be a little discussion of how one thing grew out of the other.

#### INVESTMENT

Good Family  
Wealth  
Ability  
Perfect health  
Freedom from vice-slavery  
Parents' Satisfaction  
College Education  
Opportunity  
Probability of fifty years of life

#### RETURNS

1<sup>st</sup> Installment  
Counted with "good fellows"  
Had some sense-pleasure  
(nerves narcotized)  
2<sup>nd</sup> Installment  
Strain of work felt unduly  
Heavy expense  
Craving leads to drink, gambling, sin  
Vice-slavery absolute  
Shattered nerves  
Painful and lingering disease  
Fifty years of life lost

Who would care to make a similar bargain?

But, you say, not one in a hundred has to pay such a price. Fortunately that is true, but who would take even one chance in a hundred to contract typhoid fever, small-pox, diphtheria, or any other dangerous disease? Perhaps not more than one in ten of those stricken would die but always there would be pain and loss and the body would be left less resistant than before.

So, also this disease of tobacco poisoning nearly always impairs the body. It may often happen that like this college man, the smoker in the first years of his habit shows practically no harm, but later almost every smoker would

be found to be more or less harmed and some do die as a result.

Emphasize the fact that there is certainly a real and not very remote danger to the smoker, for in the nature of things inhaling an irritating and poisonous smoke would tend to induce throat and lung troubles. Proof of this proposition is found in the not infrequent coughs and consumption suffered by smokers, and also by the investigations at the Phipps Institute for Consumptives (p. 110) where it was found that three times as many tobacco-users as non-users died and that 21 per cent. more non-users than users improved. (Give any cases known where tobacco using has resulted in severe injury or led to fatal disease and ask the boys to give similar ones known to them.)

Isn't it as sensible to refuse to expose one's self to tobacco disease, even though it be fashionable, as to small-pox? As a matter of fact did you ever personally know of a case of small pox and how many deaths do you know of in your entire city?

#### OFTEN IT IS NOT A CHANCE BUT A SURE THING

REVIEW briefly the evidence of the commoner counts against *tobacco using in men*, appealing to experience and the boy's common knowledge whenever possible.

Tobacco using causes (1) inconvenience and even suffering (p. 142) and (2) vice-slavery (p. 146).

Tends to affect injuriously (1) eyesight (p. 116); (2) the tissues of the mouth and throat thus favoring cancer (p. 112); (3) the nervous system (p. 120); (4) the heart and blood vessels and thus the circulation (pp. 110, 118) and (5), the respiratory apparatus (p. 110).

Some of these results are incontestable. Do not infer that every smoker—indeed, scarcely any user will suffer all these things; state also that occasionally one may seem entirely immune, but emphasize the fact that almost every user eventually shows injurious effects.

Evidently even for grown men, some part of priceless life is made a burden or cut off entirely.

Now marshall the facts for the boys themselves, emphasizing the point that practically all men, even tobacco users, and every authority unite in insisting that growing boys and youths will certainly be injured by the use of tobacco. Development either physical or mental, perhaps both, will be retarded; school work will be less satisfactory; self-control is usually impaired. (See pp. 110, 113, 114,

124a. Mention cases observed and direct the boys to write out or think out the cases of cigaret-using boys they know and see the truth for themselves.

Isn't your life, my boy, too valuable, your liberty too sweet, your opportunity too great to barter for the doubtful pleasure, the dangerous pastime of smoking?



### A Victim: One of Many

The present anti-cigaret campaign which is being undertaken in the colleges of America was inspired by a young college man, himself a victim of the cigaret habit. When on his way to California to die, he called upon Miss Gaston, told her his story and secured her promise that it should be published and the warning given.

**A**T NINETEEN I entered —— College, a perfect athlete, and entirely free from vice. Early in my college course I began the use of cigarettes, as most of the students were using them. By the time I graduated I was a confirmed cigaret smoker, but I thought I was immune as no serious injury seemed to be resulting. I entered the field of journalism and the stress and strain of the life led me to greater and greater indulgence in cigarettes. These, however, did not seem to satisfy my craving entirely, and I took up drink, and drifted gradually into gambling and other vices.

I found I was breaking the heart of my mother, whom I still loved, and I gave up drink and my other vices and settled down to a better life and attended to business. I found, however, that I could not give up cigarettes and smoked more and more of them.

While laughing and chatting over the events of the day with two other newspaper men, whose desks were near mine, we put in the time night after night, rolling cigarettes enough to last while we wrote our stories. When I had sixty arranged in convenient shape to light one after another I began writing, and by the time my copy was ready they were gone.

I smoked much beside and, like most confirmed smokers of cigarettes, was unable to sleep without cigarettes on a chair by my bed.

A hundred cigarettes a day were not an unusual thing for me and others with whom I was associated, whose nerves were uncontrollable when out from under the narcotic influence.

Smoking now began to tell upon my health and I became a victim of consumption from the inhalation of the poison [which injured the lungs and lowered the body's resistance to the germs]. I grew constantly worse, until now one lung is gone and the other is seriously affected. By going to California it is hoped that my life can be prolonged a few

weeks or possibly a few months, but there is no hope for my recovery. Just when I am ready to take my place in the world as a man among men, being fitted for it by education and some natural ability, with a good family and wealth back of me, I must lie down and die like a dog, and cigarettes have done it. There are thousands of others as ignorant and careless as I was in those happy days who, if they only knew my experience and could be reached by an appeal and a warning of simple facts, would be saved. A little effort would easily have kept me from the fatal beginning, as my only reason for smoking was a fear of not being classed with the "good fellows."

My mother even, had never warned me of the danger, but seemed to think everything would be all right because I was her son and had been brought up in a Christian home.

—*Leaflet Anti-Cigaret League of America.*



### A Grasshopper Jump

**W**HY are some boys like grasshoppers?" asked a good-natured teacher of a class of boys.

The boys looked at one another and thought seriously for a few moments.

No one was able to guess the riddle and the teacher told them.

"Boys are like grasshoppers because they often jump with no idea where they are going to land.

"The grasshopper may land in the road and be crushed by the wheel of a wagon or in a pile of burning brush and be burned to death.

"When a boy jumps into the cigaret habit he little thinks of landing in the opium den, the prison pen, the lunatic asylum or the grave. But the cigaret may take him to all these places."—*Gem Leaflet.*



### A NEW BOOK ON INEBRIETY

In the last five years increasing attention has been given by physicians, psychologists, and sociologists to the individual and social importance of inebriety. The appearance of the new work on this subject by Dr. T. D. Crothers is therefore timely and will be welcomed by students of the subject especially by many physicians.

The work of nearly four hundred pages is comprehensive, addressed chiefly, of course, to the physician, but it gives the layman as well, an idea of the immense complexity of the problems of this disease and its medical and legal ramifications.—365 pages. \$3.00. Harvey Publishing Co., Cincinnati, Ohio.

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# Moderate Drinking and the Death Rate

## Facts from the Life Insurance Companies

*Diagonal lines represent actual deaths of Moderate Drinkers.*

*Vertical lines represent actual deaths of Abstainers.*

Scepter Life Insurance Company  
Great Britain  
Years 1844-1908

United Kingdom Temperance and General  
Provident Institution  
Great Britain  
Year, 1866-1909

100 Expected Deaths

93%

79.1%

70%

52.9%

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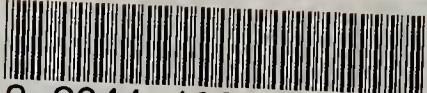




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